VERMONT
DEPARTMENT OF EDUCATION

Abstract: The Vermont Automated Data Reporting (VADR) Project

The Vermont Department of Education (VT DOE) has long recognized the importance of providing, to its program staff, policymakers, external researchers, district administrators, and school-level educators, access to comprehensive, reliable, timely and actionable data to inform decision-making and to evaluate education policies and programs. Nearly a decade ago, the Department, through its district partnership with the Vermont Data Consortium (VDC), took the first step in providing this access by establishing the Education Data Warehouse (EDW). Since then, we have continued progress towards this goal by adding additional data analysis tools including a parameter-driven reporting tool and an EDW dashboard module. Despite having taken those useful steps, our current statewide longitudinal data system has many shortcomings.

The Institute of Education Sciences established the Statewide, Longitudinal Data Systems (SLDS) grant program to assist states in establishing data systems that foster the generation and use of accurate and timely data, support analysis and informed decision-making at all levels of the education system, increase the efficiency with which data may be analyzed to support continuous improvement of education services and outcomes, facilitate research to improve student academic achievement and close achievement gaps, support education accountability systems, and simplify the processes used by states to make education data transparent through Federal and public reporting. To date, a total of $515 million have been awarded to 41 States and the District of Columbia for developing these systems.

Vermont has yet to receive funding under this program, however, 2012 SLDS grant funding will allow Vermont to implement the ***Vermont Automated Data Reporting (VADR) project***. The VADR project, addressing grant ***Priority 1: K-12 Data System***, will allow the complete implementation of Vermont's K-12 Data System.

Vermont feels that it has put excellent tools in place to help stakeholders analyze data that can help answer key education policy questions about how Vermont is serving its students. The overall vision and goal of the VADR project is to supplement and improve upon these analysis tools by automating the data collection, loading and reporting processes and adding a new tool to measure and monitor student, school and LEA growth.

Deliverables expected to be developed through this project are:

- **Deliverable 1**: All K-12 Schools Participating in Automated Vertical Data Collection Process by May, 2015.
- **Deliverable 2**: Develop State-level Operational Data Store.
- **Deliverable 3**: All VT DOE Data Analysis Tool Data Loads Automated by May, 2015.
- **Deliverable 4**: Establish Enhanced Training Delivery System.
- **Deliverable 5**: All Ed*Facts* Submission Files Capable of Being Automatically Generated by May, 2015.
- **Deliverable 6**: Develop Growth Model Reporting Tool.

Vermont Automated Data Reporting (VADR) Project

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Section A - Need for Project

Vermont is pursuing a Statewide, Longitudinal Data Systems (SLDS) grant from the Institute of Education Sciences for the purposes of designing, developing and implementing a statewide, longitudinal kindergarten through grade 12 (K-12) data system (***Priority 1. K-12 Data System***). Vermont recognizes that, while the long-term goal of the SLDS grant program is to support the creation of comprehensive P-20W (early learning to workforce) systems in every state, the establishment of a system that supports informed decision-making by a state's K-12 education stakeholders is the foundation upon which early and postsecondary education and workforce linkages can be made. It is only once Vermont establishes a K-12 Data System through this grant that the state will be able to begin meaningful pursuit of these additional linkages.

A.1 - Description of Vermont's Education Governance Structure and Local Systems

The State of Vermont has one of the most complex education governance structures in the nation. A simplified description of this governance structure follows.

Vermont has 277 town school districts, twelve of which have formed single town district Supervisory Districts (SDs). All other town districts have joined with other town districts to form Supervisory Unions (SUs). An SU is defined in statute as an administrative, planning, and educational service unit. An SD is defined as a single-town SU and SDs are included when discussing SUs as a group of such entities. There are 15 state supported Career & Technical Education centers in Vermont. 12 of these are administered by the SU in which they reside while 3 centers have formed their own administrative Regional Technical Center School Districts that serve as de facto SUs for their Technical Centers. SUs are the comparable Vermont entities to what are referred to as districts/LEAs in other states. *For the purposes of this grant application, SUs will be referred to as districts or LEAs to help reviewers develop a common understanding and the 3 regional technical center school districts will be treated as distinct, separate SU entities .* Vermont is a local control state and, as such, each district makes its own decisions regarding data system purchases and implementation. There are less than 10 Student Information System (SIS) vendors with implementations spread across these districts. One vendor dominates market share with implementations in nearly 60% of Vermont's districts. Five other vendors have implementations covering between 5-15% of these districts, respectively. Remaining vendors have a presence in two districts or less.

A.2 - Background and current status of Vermont's statewide, longitudinal data system

Early Efforts and Expanding Requirements

Over the past ten years, the Vermont Department of Education (VT DOE) has dedicated its data efforts toward implementing a statewide student identifier, meeting vastly expanding statutory reporting requirements, and building a data warehouse to provide longitudinal data to its educational community. In 1998 VT DOE implemented a statewide student identifier which now exists in all student-level datasets across the department. The student identifier initially provided student demographic and program participation information. In 2004 VT DOE's student-level data systems were dramatically expanded to meet the requirements of the No Child Left Behind Act (NCLB). The expansion of the student census allowed tracking of P-12 mobile students and

verification of student enrollment, transfers and dropouts. Also in response to NCLB requirements, Vermont implemented a unique teacher identifier, and an incident level discipline data system.

The increasing number of required data elements prescribed by NCLB, the America COMPETES Act and State Fiscal Stabilization Fund (SFSF) assurances has driven the need for a growing number of VT DOE developed data collection applications, which are the primary means VT DOE uses to collect all state and federal required data and as the source of their data system. While these data collections allow VT DOE to meet requirements, maintaining existing and developing new collections has become a tremendous burden for SEA staff. The burden on districts and schools, who have to fill out these collections, is even greater.

America COMPETES Act required elements and SFSF

The 12 elements prescribed by the America COMPETES Act form the basis of an effective statewide, longitudinal data system. Until recently, VT DOE's data system contained all required elements except for:

- A teacher identifier system with the ability to match teachers to students; and
- Student-level transcript information, including information on courses completed and grades earned.

While VT DOE has an established teacher identifier system, Vermont's data system did not have the ability to match teachers to students. VT DOE also lacked the ability to capture and report information on student-level transcript information.

In response to SFSF requirements to implement a state data system that contains elements specified in the America COMPETES Act, VT DOE ultimately was forced to develop and deploy yet another data collection (Student Educator Course Transcript collection or SECT) this year to establish the teacher-student link and collect student-level transcript information. While this enabled VT DOE to ensure that the State met requirements, this has only added to the slate of data collections VT DOE must develop and maintain and that school staff must respond to.

Education Data Warehouse

In 2005, VT DOE created an Education Data Warehouse (EDW) in collaboration with a consortium of local school districts called the Vermont Data Consortium (VDC). The EDW is the foundation of VT DOE's longitudinal data system. The VDC currently represents only 23 of Vermont's 60 supervisory unions. The member districts pay consortium dues providing training on the use of the tool and – with a tiered membership level and higher dues – the benefit of loading local data into the district model of the EDW. All VDC member districts have access to the state model storing data collected by the state from schools and districts. The state model of the EDW contains student, program, teacher, discipline, assessment, and school finance data. Depending on the data, the EDW in the state model contains between seven to 14 years of longitudinal data.

There are two important distinctions between the state and district model of the EDW. The state model does not currently allow the link between teachers and students. The district model allows for this linkage and member districts can upload local assessment data, standard or grade expectation-based indicators, class/course lists, grades, attendance, discipline and program

indicator data. The population of the district model is available only to VDC members and is entirely optional. Only 13 VDC members have loaded local data into the district side of the model.

Challenges

The new data reporting requirements brought about by NCLB and the implementation of the EDW proved challenging for both the state and local districts. Most local districts lack the financial, technical and human resources necessary to accumulate, clean, report and analyze data. In an attempt to improve data quality and reduce local burden, VT DOE hired a consulting firm (through a National Center for Education Statistics (NCES) cooperative system grant) to conduct site visits and create a best practices guide for meeting core data reporting requirements. Technological barriers documented during the site visits include too few computers, out-of-date computers, no wide area network, and a lack of technology staff (or staff working on contract). A major finding was that, even in districts with no technological barriers, the staff expected to complete data requests lack the time and tools to meet the requirements efficiently. Technical staff members are typically unavailable because of competing needs and the opinion that data reporting is largely a data entry task. Data reporting is a tremendous burden on schools; some school secretaries have to complete the task "gratis" nights, weekends, and after the school year end.

Prior to State Fiscal Stabilization Fund (SFSF) assurances requiring State collection of data that would allow for the linking of teachers and students, the dual data model of the EDW seemed an ideal solution over and above creating more data reporting requirements for local districts to allow for this link and all the rich analysis that it allows. Unfortunately, the implementation of the district side of the model has progressed slowly. As mentioned above, less than one third of Vermont districts have taken advantage of the district EDW model to link students and teachers to the wealth of performance, program participation and demographic information included in the state EDW model. Other schools either rely on their local data system or lack the ability to access and analyze linked student/teacher data. Even those districts successful in loading their data into a district warehouse have difficulty using their data for a number of reasons. Two major issues are the following:

- The local data tends to have many errors in student identifiers. The accuracy of the student identifiers is essential to linking between local and state data and looking at student achievement longitudinally.
- The EDW ad hoc query tool and the extensiveness of the EDW data model prove difficult for most EDW users except those with additional data analysis training. Even districts employing data analysts trained to use the ad hoc query tool do not take advantage of this resource because administrators unaccustomed to using data for decision making do not provide these analysts with questions that can be answered using longitudinal data.

Data-driven Reporting System

To respond to the difficulties using the ad hoc query tool and to make education information more accessible, VT DOE gained an NCES cooperative system grant to create a data-driven reporting system. VT DOE sought to expand and enhance the data warehouse reporting capabilities by developing a series of new report "templates." These report templates are used to create new reports that can be available to both internal users and the general public via the VT

DOE web site. The templates can also be used to clone future reports using the same report design but accessing different aggregated source data.

Once developed or cloned, the report file is published to the report server which then renders the reports on demand for the end-users in HTML when the report is accessed through an URL. The reports draw data from a set of custom tables in the EDW.

The design approach is "database-centric" in that the report definition elements are contained in the report database. Very minimal configuration needs to be done with the report development tool when cloning report templates. One of the guiding principles for this project was to minimize the amount of complex, custom coding for the report templates.

Reports are parameter-driven to focus the report data, typically for a particular school and/or time period. Most reports have dynamic links to automatically change the displayed report statistic (i.e. switch from showing breakdown by race to breakdown by poverty level), as well as offering direct linking to other reports where the linked report parameters are automatically picked up from the linking report. All reports have help pages set up to provide documentation and definitions for the report viewers. One result of this project is that VT DOE is perfectly poised to quickly create data reports cloned from existing report templates and driven through a report database in the EDW.

EDW upgrade and Dashboard Implementation

This past year, VT DOE contracted with its EDW vendor to upgrade to the latest software version and also to implement the vendor's dashboard module. This project is well under way with the upgrade complete and the dashboard module scheduled to launch in the project's first two pilot districts in the first quarter of 2012. This dashboard module will provide easy-to-read, color-coded indicators for district administrators, principals and educators. It will provide snapshots of student, educator, school and district-level performance and effectiveness indicators and be much more intuitive for those district personnel lacking the data analysis skills or training needed to dig deep into the EDW's main query-building tool. The usefulness of this tool is limited to districts that have current local warehouse implementations, until VT DOE is able to add the teacher-student link to the state model of the warehouse.

A graphical depiction of Vermont's current data collection and reporting system is included as **Artifact 1 of *Appendix A***.

A.3 - Limitations of Vermont's current SLDS

While the establishment of the EDW, the creation of the data-driven reporting tool and the ongoing implementation of the EDW dashboard module have helped and will help VT DOE provide excellent data analysis tools to its education stakeholders, the current model of Vermont's longitudinal data system still has significant shortcomings.

Some of the most challenging aspects of the current system include:

- All VT DOE data collections are done via online or distributed data collection applications. This creates a tremendous burden for those in districts performing data entry and/or creating manual processes to extract data from their source systems. It also has become increasingly difficult for VT DOE development staff to manage the increasing number of data collections needed in order to comply with an ever-growing list of federal and state data reporting requirements.
- As mentioned above, less than half of Vermont's districts belong to the data consortium that provides training and support to districts on the effective use of the EDW and soon-to-be-released dashboard tools. While these offerings are tremendous tools for districts that are able to come up with the resources to establish local warehouses, these tools will not truly be effective until they – and the necessary training on their use – are made available to all Vermont districts.
- The fact that the state model of the EDW does not currently have the ability to link teachers to students limits the usefulness of the ad hoc reporting tool and dashboard module for those districts that have not implemented a local warehouse.
- Like Vermont's data collections, the preparation and loading of data into the EDW is largely a manual process as well. VT DOE does not have an organized central data repository that makes it easy to compile all data necessary for these loads. This being the case, data loads can only currently happen two or three times per year. While the data loaded into and stored within the EDW is comprehensive, the frequency of these loads makes them much less timely and, thus, much less useful than they could be were data loads happening on a more timely basis.
- Having data coming into the VT DOE via disparate data collection mechanisms and lacking a coherent centralized data repository makes VT DOE's task related to federal Ed*Facts* reporting a time-intensive, manual process as well.

A.4 - Comparing Vermont's current SLDS to Priorities and Requirements for "Priority 1: K-12 Data System"

Governance and Policy Requirements: **Need and Uses:** *In addition to providing information that helps to improve student achievement and reduce achievement gaps among students, a successful data system should address several of Vermont's other key educational policy questions. The system should provide data and data-use tools that can be used in education decision-making at multiple levels, from policy to classroom instruction.*
Status: While the data-analysis tools in place form the decision-making backbone of Vermont's current SLDS, there are two significant shortcomings of this current system as it pertains to this requirement: • Many districts lack access and training on these decision-making tools. • The data contained in these tools are not timely or actionable due to the current load schedule. **NEED:** Vermont needs to extend access to all districts and establish a mechanism where data loads are happening more frequently. Automated/streamlined data loads will make these much more useful tools in the education community's effort to improve student achievement, reduce achievement gaps and answer key educational policy questions.
Governance: *A successful data system rests upon a governance structure involving both State and local stakeholders in the system's design and implementation. Particularly when expanding the data capacity in existing K-12 systems to include other educational data, an SLDS must identify the entities responsible for the operation of the statewide data system, and data confidentiality and access, as well as the means to resolve differences among partners.*
Status: Vermont does not have a permanently established SLDS governance committee in place at the current time. As mentioned previously, VT DOE partnered with a district consortium in the selection and creation of the EDW. This partnership has allowed stakeholders to design and regulate components, access and improvements to the system. Having not received grant funding for system improvements since it was established, the push and support for a permanent SLDS governance committee has diminished. **NEED:** VT DOE recognizes that the work paid for under this grant requires a stable and consistent governance structure. This grant will provide the opportunity to reconstitute a permanent SLDS governance committee to oversee the work paid for by this grant and to guide Vermont's SLDS into the future.
Institutional Support: *A successful data system requires institutional support from leadership within the SEA and from relevant stakeholders within and outside the SEA. The support must include authorization to develop and implement the SLDS, as well as the commitment of the necessary staff and other resources. If the SLDS is to be expanded to include data from other systems, all involved institutions must agree to a shared vision for deliverables and objectives.*
Status: Vermont has long recognized the value a decision-support-system with reliable data could bring to its education stakeholders. This was the driving factor behind VT DOE's and the VDC's work to establish the EDW. This system was established at the request of the state's Education Commissioner and district leaders through requesting and receiving a $1M appropriation from the state legislature. VT DOE leadership has provided technical staff dedicated to supporting established data analysis tools and has included in its budget funds to pay for continued licensure and system improvements. The Vermont education system has been

pursuing additional funding in support of its data systems since that time.
Support for an improved SLDS has continued and grown over time. The Vermont legislature enacted statute (**included as Artifact 8 of *Appendix A***) in 2009 establishing a "Prekindergarten-16 council" (PK-16 Council) whose goal, among other things, is to "ensure implementation of a prekindergarten-16 longitudinal data system". Education stakeholders both within and outside the SEA realize that the establishment of an improved SLDS to answer state educational policy questions is critical in order to be able to answer key policy questions and to improve the delivery of education to Vermont's students. (**see *Evidence of Coordination and Support* in *Appendix B***)

Sustainability: *A successful data system requires ongoing support from the SEA after it has been implemented. At a minimum, the system requires ongoing commitment of staff and other resources for system maintenance, quality control, and user training.*

Status: As mentioned above, VT DOE has provided staff for system maintenance, quality control, and support and has provided annual funds to cover system licensing, maintenance and support. VT DOE also budgeted enough money this past year to pay for the aforementioned system upgrade and the implementation of the vendor's dashboard module. Funds to pay for licensing, maintenance and support of the system have been and will continue to be included in the department's budget and support of this system will continue to be part of VT DOE's Information Technology division.
NEED: In addition to the aforementioned support, VT DOE recognizes that the need for resources responsible for user training will continue after the grant period ends. VT DOE is prepared to approach the state legislature to ask that funds be budgeted annually to continue the support of the districts and their training in the years to follow the grant period.

Technical Requirements:

Federal Reporting: *A successful data system must be able to meet Federal reporting requirements, including those of the U.S. Department of Education's (Department) EdFacts system. The system should provide efficiencies that reduce the burden of Federal reporting for schools and districts.*

Status: VT DOE has a full-time, dedicated Ed*Facts* Coordinator who is responsible for gathering all data needed for all Ed*Facts* reporting. While VT DOE has been exceptional at submitting all Ed*Facts* files on a timely basis, the current process of gathering the needed data from disparate systems and sources is quite cumbersome and inefficient.
NEED: VT DOE needs to develop within its SLDS the capability to automate as much of this process as possible. The timing of cyclical data collections often causes VT DOE's Ed*Facts* Coordinator to have to wait for a data collection to finish in order to gather a few final pieces of a file submission. Streamlining and automating much if not all of this data collection as well as the creation of Ed*Facts* submission files will make this system much more efficient and reduce the burden of Federal reporting for the schools and districts as well.

Privacy Protection and Data Accessibility: *An SLDS must ensure the confidentiality of student data, consistent with the requirements of the Family Educational Rights and Privacy Act (FERPA) and State laws or regulations concerning the confidentiality of individual records. The system should also include public documentation that clearly articulates what data will be accessible, to which users, and for what purposes.*

Status: VT DOE's data analysis tools utilize underlying row-level database security as well as organization and role-based access rules to ensure that the confidentiality of student data,

consistent with FERPA, is maintained. VT DOE suppresses any value smaller than the small-n of 11 in any public report it publishes.
NEED: While VT DOE vigorously follows all FERPA rules in order to protect student privacy, VT DOE will need to work with stakeholders to provide public documentation articulating what data will be accessible, to which users, and for what purposes.

Data Quality: *A successful data system should use a common set of data elements with common data standards to allow interoperability and comparability of data among programs such as the Common Education Data Standards (CEDS), as available and applicable. A successful data system has the capacity to exchange data between the SEA and its LEAs, as well as among LEAs, or with other appropriate State agencies or educational entities.*

Status: VT DOE has an established data dictionary for its data collections from schools and districts. Field names and data definitions are consistent across many data collection applications. As a local control state, however, Vermont's LEAs are free to utilize any SIS or whatever other data system tools they wish. This being the case, data elements can differ greatly from one LEA to another.
Regarding data quality, the data collections VT DOE creates have database and field-level business rules and user documentation that result in nearly error-free, reliable data. The reality of having many different SIS's at the LEAs, not having these systems directly linked to a state system, and only collecting data once or twice a year is that it is likely that many LEAs prepare data submissions outside of their source systems without verifying the quality of the data in source systems.
NEED: VT DOE needs to establish a central data repository that follows the model of CEDS. This will establish a data system with a common set of data elements and common data standards. Establishing this central data repository that utilizes the good work of the people that are putting together CEDS puts in place a standard that many vendors and education practitioners are already using. Using CEDS as the basis for this repository also positions Vermont well should they wish to initiate inter-state data sharing in the future.
NEED: VT DOE also needs to automate its data collection process. By automating data collection directly from source LEA systems, it is possible to identify data quality issues that might exist in those systems. It would not be possible for an LEA reporting the data to manipulate the data outside of their system before reporting it to the SEA. This inherently improves the quality of data in these source systems.

Enterprise-wide Architecture: *A successful SLDS includes an enterprise-wide data architecture that links records across information systems and data elements across time and allows for longitudinal analysis of dropout and graduation rates and student achievement growth. The architecture should include, at a minimum, a system for assigning unique student identifiers, a data dictionary, a data model, and business rules. The system must make data dictionaries publicly available.*

Status: VT DOE has in place an architecture that includes a system for assigning unique student identifiers, a data dictionary, data models for data collections and data analysis tools like the EDW, and business rules for all of its data collections. The EDW allows for longitudinal analysis of students and cohort groups for dropout and graduation rates and student achievement. VT DOE does not currently make data dictionaries publicly available.
NEED: VT DOE must make data dictionaries related to their data system publicly available and plans to do this as its data system and data dictionaries are updated during the implementation process.

Data Use Requirements: **Secure Access to Useful Data for Key Stakeholder Groups:** *Appropriate and secure access to data must be provided to key stakeholder groups including policymakers, SEA program staff, external researchers, district administrators, and school-level educators. Access must be balanced with the need to protect student privacy and confidentiality consistent with applicable privacy protection laws.*
Status: Vermont's EDW was created in order to provide SEA and LEA staff access to a wide range of data for analysis. The tool is licensed for all SEA and LEA staff. Policymakers and external researchers may request access to the data as needed and SEA and/or LEA staff provide data when these requests are consistent with applicable privacy laws and, in the case of research requests, when staff is available to assist them with the request and the request is in line with VT DOE goals. The data-driven reporting tool was created to address the need for a public reporting module that utilizes the data from the EDW. The EDW's dashboard module that is currently being implemented is meant to give school-level educators and district leaders with easy-to-read information regarding student/educator/school/district achievement. As already mentioned, a major issue is that access to the EDW and dashboard module has not been made available to all districts. **NEED:** All of the tools are there to provide appropriate and secure, role-based access to key stakeholder groups. There is, however, a pressing need for more timely data in these systems. Therefore, VT DOE sees the need to automate the collection of data from LEAs as well as to automate the loading of that data into these data analysis tools. Doing so will make this data timely and actionable and provide decision-makers with the tools and data they need to effect positive change where it is needed. VT DOE also needs to ensure that access to and training on these tools is available to all Vermont districts.
Data Use Deliverables: *The system must include deliverables to meet end-user needs (to inform decision-making and evaluate policies and programs) such as reporting and analysis tools. Design of these deliverables must be informed by early and sustained engagement of representatives from user groups to ensure the system will meet their information needs and continuously improve to meet evolving needs.*
Status: The aforementioned data analysis tools were designed with input from key SEA and LEA staff. The VDC has remained actively involved in the process, helping to set the direction of these tools. While the data analysis tools to inform decision-making and evaluate polices and programs are already in place, access to these tools and training is not consistent across all districts. **NEED:** As mentioned above, in order to make these tools effective in providing decision-makers with timely and actionable data, data loads into these tools needs to be automated. Access to these tools needs to be expanded to all districts. **NEED:** A newly identified need that has come about as part of VT DOE's work with LEAs and other stakeholders to prepare Vermont's ESEA waiver request has been a better system of measuring student growth, both on an individual student basis as well as for groups of students. VT DOE's SLDS needs to address this need.
Training on Use of Data Tools and Products: *The system should include a professional development program to prepare end-users to effectively use the data products.*
Status: The VDC has established a training program that instructs SEA and LEA staff on

effective and appropriate use of the data analysis tools. Trainings are scheduled when groups are large enough to fill a class and, at times as needed, even on a one-by-one basis.
NEED: While the training program has proven to be an effective way to manage training of users, this program must be expanded to all districts regardless of VDC membership status.

Professional Development on Data Use: *The system should include a professional development program to help end-users effectively interpret and apply the data to inform decision-making and improve practices.*

Status: The VDC training program mentioned above offers examples of how users can analyze longitudinal data and use it to make decisions and improve educational practices.
NEED: Again, this professional development training needs to be expanded to all districts.

Evaluation of Data Products, Training, and Professional Development: *The system should include a process for evaluating the effectiveness of the data use deliverables, and training and professional development programs.*

Status: The VDC conducts surveys of users that have received training to ask them to evaluate the training program. The VDC and VT DOE receive regular feedback on the data analysis tools that are already in place.
NEED: While the current evaluation system is adequate for the training that is provided, a more structured evaluation system needs to be developed to allow users the ability to give feedback not only on training, but on the usefulness of system components as well.

Partnerships with Research Community: *The State must have a policy in place for the processing of requests for data for research purposes and for communicating the scope of data available for analysis. The State should establish partnerships with internal and/or external research groups to assist with answering questions that can inform policy and practice. The State should actively disseminate research and analysis findings to the public while ensuring confidentiality of individual student data.*

Status: While VT DOE does not have an established research agenda, a recent department reorganization established a "Research, Standards and Assessment" division that has begun the work of examining the protocol by which research requests are approved. Currently, as research requests are received, VT DOE approves or denies those requests based on:

- the purpose of the request,
- the data elements requested,
- the protocol by which data is handled,
- who will have access to the data,
- whether or not the request is in line with department priorities,
- and, whether or not VT DOE has the resources available to address the request.

NEED: While the VT DOE feels this protocol is sufficient in the absence of an established research agenda, VT DOE realizes it would benefit from the establishment of partnerships with research groups. VT DOE also needs to communicate/list the scope of data available for research purposes.

Sustainability Plan: *The system must include a plan for sustaining the deliverables and training beyond the life of the grant.*

Status: As mentioned prior, VT DOE has provided staff for system maintenance and support and has provided annual funds to cover system licensing, maintenance and support. Funds to pay for licensing, maintenance and support of the system have been and will continue to be included in the department's budget and support of this system will continue to be part of VT DOE's Information Technology division. The VDC has been and will continue to be our partner in the

delivery of user training and professional development.
NEED: In addition to the aforementioned support, VT DOE recognizes that the need for resources responsible for user training will continue after the grant period ends. VT DOE is prepared to approach the state legislature to ask that funds be budgeted annually to continue the support of the VDC and their training program in the years to follow the grant period.

A.5 - Required capabilities and key elements to be developed or improved through this grant

Vermont's data system now includes all required America COMPETES Act elements but the method of collecting these data is not sustainable. Vermont's data system cannot continue to function in its current state if the VT DOE wishes to improve student achievement and reduce the achievement gap among its students. The US Department of Education's SLDS grant program has helped 41 states and the District of Columbia build or enhance their longitudinal data systems. Vermont happens to be one of the few states that have yet to receive a grant under this program. VT DOE feels strongly, based not only on need but also on the merit of this grant application, that the State of Vermont will be added to the list of states helped through SLDS grant funding in 2012.

In response to the needs mentioned above, the 10 capabilities and elements that VT DOE proposes to develop and/or improve through this grant and related activities are:

Goal 1: Reconstitute Vermont's SLDS Governance Committee.
Goal 2: Streamline and automate the collection of data from all school districts while improving the quality of data through multi-level data validation and correcting of data errors at their source.
Goal 3: Establish a centralized data repository utilizing a data model that adheres to the Common Education Data Standards (CEDS) to hold all collected data.
Goal 4: Automate and increase the frequency of the data load processes from the data repository to VT DOE data analysis tools.
Goal 5: Provide access to and training on VT DOE's data analysis tools to ALL Vermont school districts.
Goal 6: Streamline and automate VT DOE's Ed*Facts* reporting.
Goal 7: Establish a Growth Data Mart to measure and report on student, educator, school, district and state growth as part of Vermont's efforts to enhance its accountability and education delivery system.
Goal 8: Establish an improved evaluation system that gives stakeholders the ability to provide feedback on system components and training.
Goal 9: Publish data documentation regarding data dictionaries, data accessibility and data available for research.
Goal 10: Pursue additional funds that will help sustain system success.

With help from this 2012 SLDS grant, Vermont plans to meet all of these goals through the ***Vermont Automated Data Reporting (VADR)*** project.

A.6 - Vermont Automated Data Reporting (VADR) Project

How VADR will support Vermont's education improvement efforts, goals, and accountability system

Vermont has developed excellent tools to enable stakeholders to analyze data and answer key education policy questions about how well Vermont's schools are serving their students. The overall vision of the VADR project is to supplement and improve upon these analytic tools by automating data collection, loading and reporting processes, and adding a new tool to measure and monitor growth in achievement by students, schools and LEAs. VT DOE will work closely with contracted vendors to assist in the implementation of this project.

Project Activities Funded by SLDS Grant

Automated Data Collection from Districts to VT DOE

The VADR project will automate the vertical collection of student, educator and course information from all districts within the state utilizing the Schools Interoperability Framework (SIF) as well as automated transfer of extract files (per VT DOE specification) or web services for those districts that do not have SIF-enabled source systems. A data transfer system where every district in a state uses SIF is often presented as the ideal solution because SIF enables the transfer of data not only from the districts to the state but also can allow data from the state system to be returned to LEA systems where corrections/updates are needed. VT DOE has learned from the experiences of other states however that multiple transfer protocols or on-ramps are needed in order to accommodate all districts. For this reason, the VADR project will allow VT DOE and the implementation vendor to work with Vermont districts to determine the best course of action based on their needs. The ultimate goal, however the method, is to automate the transfer of data from the district systems to the state system. The automation of this data reporting will result in the following outcomes:

- Cleaner data in LEA source systems. Since the data will be coming directly from source systems and not from manual data entry or manipulated extract files, the source data will have to be cleaned to meet SIF/business requirements. A SIF vertical reporting structure can catch errors before they are delivered to the state and allows district staff to make corrections as data is entered.
- Less time spent entering data. The main goal in this process is to implement a reporting mechanism that will reduce the burden on district staff. Rather than looking at the data in one source system and typing that information in VT DOE data collection applications, the data will automatically be transferred directly from the source system. An added benefit to the state is that VT DOE development staff will not have to develop/maintain data collection applications where those elements can be automated. This will free them up to provide other services to the department and districts.

Operational Data Store

These automated data collections will be loaded into a new state-level Operational Data Store (ODS) that will serve as VT DOE's central data repository. The ODS will act as the central data repository for all live, transactional data from near real time or scheduled data collections. The

data model of the new ODS will be modeled after the CEDS Data Model and the National Education Data Model (NEDM) to ensure comparability and interoperability across systems. Utilizing these common models will help Vermont position itself so that the implementation of a CEDS "Blue Box" for the purposes of possible future multi-state data sharing initiatives will not necessitate a redesign of the ODS.

The ODS will include a console that will allow role and organizational-based access to users or the purpose of scheduling and verifying the status of their data loads. This console will be FERPA compliant and allow both VT DOE and district staff appropriate access to schedule and monitor data loads as well as view and correct data errors associated with those loads.

Automated Analysis Tool Data Loads

Data loads to the EDW, data-driven reporting tool and dashboard module will be automated as part of the VADR project. As EDW data are currently loaded only twice a year, automating these data loads will provide the following benefits:

- Education stakeholders will have access to much more timely and actionable data. VT DOE will work with district leaders and policymakers to determine the ideal schedule and frequency for these loads. Access to such timely and actionable data allows education stakeholders to see trends and answer questions about:
    - Attendance: More timely and frequent data loads will present a better picture of student mobility and help educators recognize if a student's attendance patterns affects his or her achievement.
    - At-Risk Status: District staff will be able to utilize timely and actionable data to identify attributes that contribute to a student's risk of failure or drop-out and act on that data in a timely manner.
- Manual process of data loads for VT DOE staff will be eliminated. The process of gathering data from various state data collections that are run at different times of year, formatting those data and manually running them through the ETL processes into the EDW, data-driven reporting tool and EDW dashboard module is extremely time consuming and subject to error. Automating this process will dramatically improve the quality and timeliness of data in these analysis tools.

Streamlined Federal Reporting

The ODS environment will include an Ed*Facts* Data Mart that will aggregate all necessary data elements and automate the generation of Ed*Facts* submission files. The Ed*Facts* Data Mart can gather needed information from the ODS, the EDW and other source systems as necessary. This will make the process of gathering and preparing data for Federal reporting much more efficient and allow VT DOE's Ed*Facts* business analyst more time to assist with other systems and analysis.

Growth Model Development

The ODS environment will also include a Growth Model Data Mart that will provide VT DOE the ability to design, develop, and support growth models based on student/staff performance, school performance, and district performance. The reporting solution that will be developed with this data model will also allow VT DOE to apply growth models to State, LEA, school programs, and classroom data sets. The reporting solution will be able to view all data with a

static, longitudinal, and predictive component. VT DOE is currently working with its district partners to compose Vermont's waiver request to ESEA. It is important to note that the Growth Model Data Mart proposed here, by design, does not specify the measures by which growth is defined. Rather, the data mart will be set up to allow VT DOE and the education community to jointly define those measures and then include those measures to apply predictive analysis to cohorts of students. Ultimately the growth model will allow Vermont's education stakeholders to answer three essential questions about student/school/district performance:

1) What is the growth rate of a student, a school, and an LEA?
2) What should be the growth rate for the student/school/district to reach a desired level of achievement within a period of time?
3) What are the highest sustained growth rates that exist today and under what conditions could they improve?

Enhanced Training Delivery System

Implementation vendors will provide training on SIF, the data load process, accessing the ODS user console and using the new growth model data mart reporting tools. VT DOE has contacted each SIS vendor with a presence in the state to make them aware of this project and to obtain estimates of what it would take to enable their local district systems and train them on system-specific requirements. Funds from this grant will be made available to Vermont's districts to ensure their local systems are set up to work with state systems as the VADR project is implemented.

The VDC's training and professional development program will be expanded to provide training and support to state and district staff around the use of the EDW, data-driven reporting tool (both suppressed and unsuppressed reports) and EDW dashboard tool. This training and professional development will be provided to all Vermont school districts and VT DOE staff. It is important to note that the grant funds made available to the VDC as part of this expanded training and professional development program will supplement, not supplant the funds VDC member districts may already be paying for basic training, local warehouse creation, data preparation and/or data loading services. VT DOE has found that partnering with district staff to have them provide this training caters the training to education staff who are most closely involved with student education and develops a greater sense of ownership and buy-in from its district partners.

Related Project Activities Not Funded by SLDS Grant

In order to establish a K-12 Data System that meets all required capabilities and elements, VT DOE will complete the following project activities before or during implementation of the VADR project.

Governance

VT DOE will reestablish the SLDS Governance Committee before VADR project work begins. The establishment of a formal SLDS Governance Committee will drive the vision and implementation of Vermont's K-12 Data System through the VADR project. This governance committee will also set the state up for continued success as linkages are made to eventually expand this system to become a comprehensive P-20W longitudinal data system that informs educational policy and practice along Vermont's entire education system. Further information

about this governance committee is included in ***Section D: Project Management and Governance***.

Data Analysis Tool Improvements

As mentioned prior, the state model of the EDW is not currently set up to facilitate the linking of teacher and student data. VT DOE has worked with our EDW vendor to determine what is needed to facilitate this link in the state model and thus provide this teacher-student link to all Vermont districts, regardless of whether or not they choose to implement a district warehouse. VT DOE staff have received the training in warehouse object and Extract, Transform & Load (ETL) process creation that will enable them to create the three (course, class, & schedule) warehouse objects and to create the ETL process that will be needed to populate them. *VT DOE staff will be contributing this work as a non-grant-funded contribution to this project as part of their normal job duties*.

VT DOE has also identified money within its existing budget to pay for the creation of a secure, role and organization-based login to its data-driven reporting tool. To date, this tool has published publicly accessible reports with small-n values suppressed. VT DOE has received much positive feedback about the usability of these reports and the value of the information they contain. A repeated request, however, has been the desire of district and state staff to be able to view unsuppressed values on a role-appropriate basis. The project that created the design for these reports built in the ability to generate these same reports with small-n values unsuppressed, however, VT DOE has been unable to free up the necessary resources to develop the accompanying login process in-house. VT DOE and district staff see the value that access to these unsuppressed reports can bring and feel that the time to pay for the development of this feature is now. *VT DOE will be contracting this work out using state budgeted funds*.

Improved Evaluation System

Improved delivery of an enhanced system/training evaluation system will be established in conjunction with the VADR project. VT DOE finds evaluation systems can be delivered anonymously and electronically via inexpensive tools such as Survey Monkey (for which VT DOE is already licensed). VT DOE will work with the VDC and other Governance Committee members to develop meaningful feedback surveys in relation to the proposed data system and training.

Data and Research

VT DOE will work with its web manager to publish information about data dictionaries, data accessibility and data available for research. Publishing what data is collected, who has access to that data and for what purposes improves the transparency of government and the education delivery system and helps to ensure that privacy measures are followed. Publishing a list of data available in VT DOE's data analysis tools helps Vermont's research community know what data will be available to them for their research that may improve student achievement and reduce achievement gaps that may exist. VT DOE will partner with research organizations who will serve in an advisory capacity to the SLDS Governance Committee, helping to set the direction of VT DOE's data system.

Sustained Funding

Finally, VT DOE will proactively seek out funding that will sustain the success the VADR project brings. VT DOE will work with the state legislature and the Governor to ensure that the data system developed under the VADR project will continue to serve the data needs of Vermont's education stakeholders long after the grant implementation period is over.

Vermont has taken a lot of positive steps to implement, without any SLDS or Race to the Top (RttT) funding, data analysis tools that can provide useful information to its education community. SLDS grant support is needed now, however, to complete this vision of providing timely and actionable longitudinal data to all education stakeholders. Failure to receive funding to implement the VADR project will cause Vermont to fall further behind and threaten the data system investment the state has already made.

A graphical depiction of Vermont's proposed data collection and reporting system implemented through VADR is included as **Artifact 2 of *Appendix A***.

Section B - Project Deliverables Related to System Requirements and Implementation

Following are a list of proposed deliverables, identified as products, features or benchmarks for each of the requirements Vermont will be addressing in work funded under this grant. Each deliverable listed has been linked to the goals and needs from ***Section A*** that the deliverable helps to address. Each deliverable is a key component of the overall VADR project vision outlined in the previous section.

Deliverable 1: (Benchmark) All K-12 Schools Participating in Automated Vertical Data Collection Process by May, 2015.
***Section A* Goal(s) Met:** This benchmark of the VADR project will meet Goal 2: Streamline and automate the collection of data from all school districts while improving the quality of data through multi-level data validation and correcting of data errors at their source.
Section A* Needs Met:** This deliverable will meet or, paired with other deliverables, help meet the needs described in ***Section A pertaining to the Priority 1 requirements for "Governance and Policy Requirements: Needs and Uses", "Technical Requirements: Federal Reporting & Data Quality", and "Data Use Requirements: Secure Access to Useful Data for Key Stakeholder Groups & Data Use Deliverables".
Summary: VT DOE will contract a Vertical Reporting (VR) implementation vendor to deploy a hosted, multi-tenant vertical data collection solution that all Vermont LEAs can use to submit data in an automated, secure, and user-friendly manner. The solution will establish a vendor-hosted Zone Integration Server (ZIS) that will provide for separate zones for the SEA and each individual district. The solution will establish an automated data collection mechanism that utilizes SIF and traditional flat files designed to meet the specifications of VT DOE's state profile. It will facilitate both manual and scheduled data collection workflows. It will provide functionality that will enable both district level (errors in district submission file) and state level (cross-district or aggregate errors) error checking and provide a secure mechanism for district staff to view and correct those errors in their source systems. The solution will also allow VT DOE staff to monitor the progress and status of district submissions. The VR implementation vendor will work closely with the ODS vendor to deliver a streamlined data collection system. This implementation will require customizations to district information systems to enable SIF or the creation of file extracts. VT DOE has proactively contacted every SIS vendor known to operate in Vermont to gauge the effort and costs associated with these customizations. The implementation of this solution, described in greater detail in ***Section C***, will start with a pilot implementation in 6 districts before it is rolled out to the remaining 54 districts and 3 self-governing technical centers. VT DOE has budgeted money in this proposal for these district-level modifications. These customizations will be distributed to districts via sub-grants from VT DOE.

Deliverable 2: (Product) Develop State-level Operational Data Store.
***Section A* Goal(s) Met:** This product of the VADR project will meet Goal 3: Establish a centralized data repository utilizing a data model that adheres to the Common Education Data Standards (CEDS) to hold all collected data.

Section A* Needs Met:** This deliverable will meet or, paired with other deliverables, help meet the needs described in ***Section A pertaining to the Priority 1 requirements for "Governance and Policy Requirements: Needs and Uses", "Technical Requirements: Federal Reporting & Data Quality", and "Data Use Requirements: Secure Access to Useful Data for Key Stakeholder Groups & Data Use Deliverables".
Summary: VT DOE will contract an Operational Data Store (ODS) implementation vendor to develop a state-level operational data store to support the automated data collection process. The ODS solution they create will provide VT DOE with an adaptable and scalable data management, storage, and reporting platform that closely models established and emerging national data models such as the National Education Data Model (NEDM) and Common Education Data Standards (CEDS). The ODS vendor will work closely with the VR vendor to establish a zero-client, web-based tool for the management of and access to student data. A secure Extract/Transform/Load (ETL) Console will allow district staff role and organization-based access to respond to error reports and manage their data submissions. The ODS vendor will perform a gap analysis between data received through the VR vendor's collection process and the data elements needed to 1) automate VT DOE data analysis tool loads, 2) automate the generation of Ed*Facts* submission files, and 3) populate the Growth Model tool described later in this section. The ODS vendor will then set in place a process to collect those missing elements from district source systems utilizing XML, web services or custom ETL processes depending on the source systems' capabilities. This implementation will require customizations to district information systems to enable SIF or the creation of file extracts. VT DOE has proactively contacted every SIS vendor known to operate in Vermont to gauge the effort and costs associated with these customizations. The implementation of this solution, described in greater detail in ***Section C***, will start with a pilot implementation in 6 districts before it is rolled out to the remaining 54 districts and 3 self-governing technical centers. VT DOE has budgeted money in this proposal for these district-level modifications. These customizations will be distributed to districts via sub-grants from VT DOE.

Deliverable 3: (Benchmark) All VT DOE Data Analysis Tool Data Loads Automated by May, 2015.
***Section A* Goal(s) Met:** This benchmark of the VADR project will meet Goal 4: Automate and increase the frequency of the data load processes from the data repository to VT DOE data analysis tools.
Section A* Needs Met:** This deliverable will meet or, paired with other deliverables, help meet the needs described in ***Section A pertaining to the Priority 1 requirements for "Governance and Policy Requirements: Needs and Uses", "Technical Requirements: Federal Reporting & Data Quality", and "Data Use Requirements: Secure Access to Useful Data for Key Stakeholder Groups & Data Use Deliverables".
Summary: The contracted ODS implementation vendor will establish an automated ETL process to gather and format the data needed to automate the data load process for the EDW, data-driven reporting tool and EDW dashboard model. The vendor will work closely with VT

DOE staff that prepare those extract/load files to understand the source of their data and will then ensure the ODS solution can enable the automation of this process. Detail on steps followed to reach this benchmark are included in ***Section C*** to follow.

As a non-grant-funded pre-award contribution to this project, VT DOE staff will create the three (course, class, schedule) data warehouse objects and ETL processes necessary to facilitate the teacher-student link in the EDW. Details regarding this, and other, pre-award work can be seen in **Artifact 3 of *Appendix A***.

Deliverable 4: (Feature) Establish Enhanced Training Delivery System.
***Section A* Goal(s) Met:** This feature of the VADR project will meet Goal 5: Provide access to and training on VT DOE's data analysis tools to ALL Vermont school districts.
Section A* Needs Met:** This deliverable will meet or, paired with other deliverables, help meet the needs described in ***Section A pertaining to the Priority 1 requirements for "Governance and Policy Requirements: Needs and Uses", "Technical Requirements: Data Quality", and "Data Use Requirements: Secure Access to Useful Data for Key Stakeholder Groups; Data Use Deliverables; Training on Use of Data Tools and Products & Professional Development on Data Use".
Summary: VT DOE will contract with the VDC to expand their training and professional development to all Vermont districts. Grant funds contracted to the VDC will be used to supplement the training program they currently have in place. These contracted funds will allow the VDC to hire the two new positions to supplement the project related activities of VDC's existing Data Coordinator. These funds will not supplant the VDC member dues paid by districts for specialized training, data preparation, district warehouse creation and district warehouse data load services. Through their participation in deliverable activities and pilot rollouts, VDC trainers will enhance their training and professional development on data use and decision-making using VT DOE data analysis tools to also include training and coaching relating to new tools developed as part of the VADR project. VDC trainers will utilize and enhance documentation delivered to the VADR team by implementation vendors to create a customized training program in support of all Vermont districts. The VDC will expand their trainings via regional training sessions to ensure that ALL Vermont districts receive training on these important tools, regardless of their VDC membership status.

Deliverable 5: (Benchmark) All Ed*Facts* Submission Files Capable of Being Automatically Generated by May, 2015.
***Section A* Goal(s) Met:** This benchmark of the VADR project will meet Goal 6: Streamline and automate VT DOE's Ed*Facts* reporting.
Section A* Needs Met:** This deliverable will meet or, paired with other deliverables, help meet the needs described in ***Section A pertaining to the Priority 1 requirements for "Governance and Policy Requirements: Needs and Uses", "Technical Requirements: Federal Reporting & Data Quality", and "Data Use Requirements: Secure Access to Useful Data for Key Stakeholder Groups & Data Use Deliverables".
Summary: The contracted ODS vendor will establish, as part of their overall ODS solution, an Ed*Facts* Data Mart to facilitate the gathering, aggregation and formatting of all VT DOE

Ed*Facts* submission files. The vendor will work closely with VT DOE's Ed*Facts* Coordinator to ensure this solution meets department and federal guidelines. The ODS vendor will use input from VADR program teams (described in ***Section E: Staffing***) and VT DOE data providers to automate the generation of these files first using existing sources (i.e. the EDW, transactional database housing data collection data, and other VT DOE file sources). The vendor will then ensure that their ODS solution facilitates the automated collection and storage of all data needed to populate these submission files and will ultimately create an ETL solution that automates the creation of all files without the need for additional data. Detail on steps followed to reach this benchmark are included in ***Section C*** to follow.

Deliverable 6: (Product) Develop Growth Model Reporting Tool.

***Section A* Goal(s) Met:** This product of the VADR project will meet Goal 7: Establish a Growth Data Mart to measure and report on student, educator, school, district and state growth as part of Vermont's efforts to enhance its accountability and education delivery system.

Section A* Needs Met:** This deliverable will meet or, paired with other deliverables, help meet the needs described in ***Section A pertaining to the Priority 1 requirements for "Governance and Policy Requirements: Needs and Uses" and "Data Use Requirements:
Secure Access to Useful Data for Key Stakeholder Groups & Data Use Deliverables".

Summary: The contracted ODS vendor will work with VT DOE and district experts to design and establish, as part of their overall ODS solution, a Growth Model Data Mart & Reporting Tool.

The creation of the data mart will allow VADR project team members to define reliable and measurable growth indicators that will be used to populate the reporting tool. The ODS vendor will ensure that their overall ODS solution facilitates the automated collection of data needed to populate the Growth Model Data Mart.

This growth model tool will allow longitudinal growth analysis to provide an understanding of how individual students and groups of students progress from year to year toward state standards based on where each individual student begins. The growth model reporting tool will be a key analysis tool for all districts. District and state staff will be able to use this tool to create a cohort of students using at-risk indicators and apply growth model predictive analysis to create comparative benchmarks to see deviations from the predicted values. The growth model and reporting tool that will be developed as part of this project focuses attention on maximizing individual student progress over time and reveals where, and among which students, the strongest growth is happening, and where it is not. Detail on steps followed to develop this product are included in ***Section C*** to follow.

Goals –and associated needs – that will be met through related but non-grant-funded project activities include:

- "Goal 1: Reconstitute Vermont's SLDS Governance Committee",
- "Goal 8: Establish an improved evaluation system that gives stakeholders the ability to provide feedback on system components and training",
- "Goal 9: Publish data documentation regarding data dictionaries, data accessibility and data available for research", and
- "Goal 10: Pursue additional funds that will help sustain system success".

The means of achieving these non-grant-funded goals are included in the VADR project vision, as described in ***Section A.6 - Vermont Automated Data Reporting (VADR) Project***.

Section C – Timeline for Project Deliverables

The deliverables defined in ***Section B*** above will be achieved through collaborations with contracted implementation vendors, the VDC, the VADR Governance Committee (which will include district and school leaders), and research organizations (e.g. Jeffords Center).

The Timeline below provides the schedules for initiation and completion of the tasks to achieve each deliverable. The principal (underlined in Timeline) and other responsible parties are identified for each deliverable. The roles and responsibilities for each of these parties are further described in ***Section D: Project Management and Governance Plan***, following. The more detailed project plan for this timeline is included as **Artifact 4 of *Appendix A***.

Timeline			
Deliverable & Resp.	**Tasks and Sub Tasks**	**Start**	**End**
Deliverable 1: All K-12 Schools Participating in Automated Vertical Data Collection Process by May, 2015. Resp: Vendor(s), VADR I-Team, ODS & VR Team	1.1 Project Planning	May 2012	May 2012
	1.2 Vertical Reporting (VR) Analysis & Design	May 2012	Oct 2012
	1.2.1 Requirements Gathering	May 2012	Aug 2012
	1.2.2 ODS Vendor Coordination	Jun 2012	Aug 2012
	1.2.3 SIS Vendor Coordination: SIF Agent Implementation / Flat File Preparation	Jun 2012	Aug 2012
	1.2.4 VR Vendor Designs/Procures/Sets up System (Hardware & Software)	Aug 2012	Sep 2012
	1.2.5 VR Vendor Prepares System Documentation for SEA and LEAs	Aug 2012	Aug 2012
	1.2.6 Develop Implementation/ Rollout/ Testing/ Training Plan	Aug 2012	Aug 2012
	1.2.7 VR Implementation Vendor Develops Collection & ODS Transfer Plans	Aug 2012	Oct 2012
	1.3 Vertical Reporting Implementation / Rollout / Training	Oct 2012	Apr 2015
Deliverable 2: Develop State-level Operational Data Store. Resp: Vendor(s), VADR I-Team, ODS & VR Team	2.1 Project Planning	May 2012	May 2012
	2.2 ODS Analysis & Design	May 2012	Jan 2013
	2.2.1 ETL & Case Management Requirements Definition	May 2012	Jul 2012
	2.2.2 Vertical Reporting & Add'l Data Collection Analysis	Jun 2012	Oct 2012

Timeline			
Deliverable & Resp.	**Tasks and Sub Tasks**	**Start**	**End**
	2.2.3 LEA Vendor Coordination (SIS, SPED, HR, Finance): Mapping for ETL/Flat File Preparation	Oct 2012	Jan 2013
	2.2.4 ETL Console Error Reporting	Sep 2012	Oct 2012
	2.2.5 ODS Vendor Designs/Procures/Sets up System (Hardware & Software)	Oct 2012	Nov 2012
	2.2.6 ODS Vendor Prepares System Documentation for SEA and LEAs	Oct 2012	Oct 2012
	2.2.7 Develop Implementation/ Rollout/ Testing/ Training Plan	Jan 2013	Jan 2013
	2.2.8 ODS Vendor Develops Add'l Data Collection Plans to Close Data Gaps	Oct 2012	Nov 2012
	2.3 ODS Vendor Develops ODS for Vertical Reporting	Oct 2012	Oct 2012
	2.4 One-time Data Migration from Current VT DOE Data Collection Environment	Oct 2012	Nov 2012
	2.5 ODS Vendor Implements Add'l Data Collection to Close Data Gaps	Jan 2013	Apr 2015
Deliverable 3: All VT DOE Data Analysis Tool Data Loads Automated by May, 2015. Resp: Vendor(s), VADR I-Team, EDW Team, Existing EDW Vendor, Secure Login Contractor	3.1 Project Planning	May 2012	May 2012
	3.2 Requirements Definition	May 2012	Jun 2012
	3.3 ODS Vendor Creates Initial Data Analysis Tool Load Processes	Oct 2012	Jan 2013
	3.4 ODS Vendor Establishes Initial Load Processes	Jan 2013	Feb 2013
	3.5 ODS Vendor Begins Using VR Collected Data in Load Processes	Dec 2012	Mar 2013
	3.6 ODS Vendor Establishes Load Processes Using only collected data	Jan 2015	Apr 2015
Deliverable 4: Establish Enhanced Training Delivery System. Resp: VDC, VADR I-Team**,** Vendors	4.1 Stakeholder Meeting	May 2012	May 2012
	4.2 Expand EDW to support secure data-driven reporting tool	May 2012	Aug 2012
	4.3 Expand Data Analysis Tool Training to All Districts	Aug 2012	Dec 2012
	4.4 VDC Attends Pilot Rollouts	Oct 2012	Jan 2013
	4.5 VDC Prepares Customized Documentation	Oct 2012	Feb 2013

Timeline			
Deliverable & Resp.	**Tasks and Sub Tasks**	**Start**	**End**
	4.6 VDC Incorporates VR/ODS Training into Professional Development	Feb 2013	Feb 2013
Deliverable 5: All Ed*Facts* Submission Files Capable of Being Automatically Generated by May, 2015. Resp: Vendor(s), VADR I-Team , ED*Facts* Team	5.1 Project Planning	May 2012	May 2012
	5.2 Ed*Facts* Data Mart Requirements Definition	May 2012	Jun 2012
	5.3 ODS Vendor Designs Ed*Facts* Data Mart	Jun 2012	Aug 2012
	5.4 ODS Vendor Incorporates Collected Data into Ed*Facts* Data Mart Population	Jan 2013	Mar 2013
	5.5 Verification that all LEA data is collected for Ed*Facts* Files	Mar 2015	Apr 2015
Deliverable 6: Develop Growth Model Reporting Tool. Resp: Vendor(s), VADR I-Team, Growth Model Team	6.1 Project Planning	May 2012	May 2012
	6.2 Growth Model Data Mart Requirements Definition	May 2012	Jun 2012
	6.3 ODS Vendor Designs Growth Model Data Mart	Jun 2012	Oct 2012
	6.4 ODS Vendor Begins Using Collected Data in Growth Model Data Mart	Jan 2013	Feb 2013
	6.5 ODS Vendor Delivers Training to State and District Stakeholders	Feb 2013	Mar 2013

Note: To ensure project success, VT DOE will complete foundational tasks prior to the grant award. Descriptions of this foundational work are included in ***Artifact 3 of Appendix A****.*

Section D – Project Management and Governance Plan

D.1 – Location and Management of VADR within the SEA

Information Technology Team & Organizational Structure
The Vermont Automated Data Reporting (VADR) project is located within the VT DOE Information Technology (IT) Team. The IT Director, who leads the IT Team, reports to the Chief Financial Officer, who reports directly to the Vermont Commissioner of Education. (See ***Appendix A***, **Artifact 5** for a VT DOE organizational chart). The IT Director will serve as Project Director for VADR, with oversight and approval responsibility. He will regularly report on progress and take up any major decisions affecting the project timeline or budget with the Commissioner and Chief Financial Officer.

The VT DOE IT team has much experience successfully managing projects of similar scope and complexity. Several team members participated in the design and implementation of the EDW, which involved a needs assessment across VT DOE program areas and school districts. Key team members have participated in the implementation of an enterprise grants management system. This included coordinating a needs assessment across VT agencies, forming a governance committee of stakeholders, coordinating the contractor selection process and implementing the system at VT DOE as a pilot site, while ensuring the system was "enterprise ready." Both projects achieved their goals and were implemented on budget.

The VADR I-Team
A critical piece of the VADR project implementation will be done through a team of contractors, state and VDC staff who will serve as the **VADR Implementation Team (I-Team)**, described in ***Section E: Staffing***. Additional details of this team, its responsibilities and its relationships to other project teams may be found in ***Appendix A,*** **Artifact 7**.

This team responsible for implementing the VADR Project will be managed by the Technical Lead/Project Manager but will work closely with the Project Director. This position will maintain a master project plan using Microsoft Project that will integrate the project sub-plans of all contractors. This master plan and all the sub-plans will clearly identify all internal and external resources, tasks, timelines, dependencies and milestones. All contractors will provide weekly updates to their sub-plans along with a status report clearly identifying missed deadlines, risks, issues and change requests.

The Technical Lead / Project Manager will also maintain and monitor a project-wide log of risks, issues and change requests. This contractor will provide weekly updates to the Project Director. This weekly review will allow for quick identification and communication of possible cost overruns and impacts to others' sub-plans if a slippage were to occur elsewhere. This review will initiate appropriate and timely corrective action and rescheduling of resources and tasks.

The contractors on this team will be selected through a competitive bid process and, so as to avoid any possible conflicts of interest, will be independent contractors NOT associated with any of the contractors of systems (ODS & VR) implemented via this project. The VADR I-Team's chief role will be to ensure that systems implemented fulfill the requirements of this grant.

State of Vermont procurement, contracting and project management controls also serve as controls for this project. All RFPs and contracts must be approved by the office of the state's Chief Information Officer and the Enterprise Project Management Office. In addition, all projects over $500,000 must undergo an independent third party review which vets the project approach, identifies and suggests mitigations to risks and confirms the qualifications of vendors and state staff resourced to the project.

In developing contracts with the selected providers, VT DOE will ensure that the contract designates the individual who will serve in the technical lead / project manager role. The contract will include clearly stated deliverables, roles and responsibilities, assumptions, communication plan, change request plan and escalation path for issue resolution.

The VADR Program Teams

The VADR I-Team will be supported by four program teams responsible for assisting with the implementation of the project activities. (These teams are described in ***Section E: Staffing***.) All contract initiatives will be launched by a kick-off meeting of key participants which will be coordinated by the Technical Lead / Project Manager. Minimally this will include all project resources (internal and external) impacted by the work of the contractor and the Project Director. This meeting will help all understand the deliverables, scope, timeline, risks, communication plan and issue reporting process.

During the course of the project, the leaders of the program teams and the project manager for the contractors implementing systems will provide weekly written updates to the VADR Technical Lead / Project Manager and be available for weekly conference calls or meetings with other project participants as required by the VADR Technical Lead / Project Manager. Meeting notes will be maintained and will contain the status of important milestones within the next 30 days and a list with the status of current outstanding issues. The Project Director will participate in weekly update meetings/conference calls with contractors and stakeholders. The Project Director will notify the Chief Financial Officer of any issues which may result in changes to the project budget or timeline.

Managing Change

Another key member of the VADR I-Team is the Change Management Specialist. The DOE Technical Lead / Project Manager will work closely with the Change Management Specialist to ensure that role has the information needed for successfully helping external stakeholders and internal resources navigate and absorb the process changes resulting from this project.

D.2 – VADR Project Governance Structure

The VADR project governance structure has been developed to ensure expert oversight and guidance of all project activities, meaningful input from the wide range of stakeholders, and clear roles and responsibilities for carrying out all VADR Project tasks.

Management and Oversight

The **Vermont Commissioner of Education** will serve as the Project Sponsor, and will have direct and ongoing input into major project tasks and direction, primarily through regular communication with the Project Director, which already occurs.

The **VADR Governance Committee** will be reconstituted before grant activities commence. The committee will be comprised of Vermont education stakeholders, and led by the Deputy Commissioner for Transformation and Innovation. The VADR Governance Committee will guide the project and advise the Commissioner. The Governance Committee will include representatives as follows: VT DOE staff (including the Project Director), key members from representative K-12 organizations including the Vermont Superintendents Association (VSA), Vermont Principals Association (VPA), Vermont School Boards Association (VSBA), Vermont National Education Association (VNEA), and VDC staff. Policymakers – including representatives from the Governor's Office, State Legislative Representatives and the Vermont State Board of Education – and research organization partners will serve in an advisory role to the Governance Committee. The Governance Committee will make recommendations regarding implementation of LDS activities, ensuring they are thoughtfully driven by research partnerships, are responsive to current and future needs of Vermont LEAs and schools and follow best practices, including equity of access to high quality toolsets and the information needed to inform continuous improvement in instruction and program accountability.

The **Project Director** (VT DOE IT Director) will lead the overall project and directly supervise the work of the **VADR I-Team.** He will serve as the liaison between the Commissioner and the VADR Implementation Team and will ensure ongoing substantive project input and review by the Governance Committee.

The **VADR I-Team** will include outside contractors (VADR Technical Lead / Project Manager and Change Management Specialist) hired through a competitive bid process and VT DOE & VDC Resources. The VADR Team will work under the direction of the Project Director, and with guidance from the Commissioner of Education and the Governance Committee. The successful bidder for the contract positions will have a proven record of excellence in enterprise information system implementation. The VADR I-Team will also include a Change Management Specialist who will create and implement change management plans that minimize staff resistance and maximize staff engagement at the district and school level. The overarching goal of this project is to leverage the LDS system improvements to create sustainable culture change that moves districts and schools forward in using data to improve instruction and prepare students for post-graduation success. Bringing in an expert skilled in the proven principles and strategies of formal change management methodology will result in faster adoption, greater utilization and higher satisfaction with the changes impacting staff in the districts.

The VADR I-Team will supplement the skills and experience of VT DOE staff. While VT DOE has significant relevant knowledge and expertise, the scope of VADR is beyond the capacity for current staff to manage on their own. Four additional teams of VT DOE and VDC experts will be formed to work closely with the VADR I-Team. These four teams are organized around key VADR project deliverables.

Taking into account the VT DOE IT Team's anticipated capacity challenges, contracted vendors will host the Vertical Reporting and ODS environments. Moving from a data collection process where all servers are managed and all data collections are programmed *solely* by VT DOE staff will free up resources to assist districts in the data collection transition and allow time for VT DOE technical staff to add to the reporting and analysis tools they are already offering. Hosting costs are included in the proposed project budget and will eventually be offset through savings achieved by eliminating unnecessary server, development tool and database licensing costs related to the current data collection process. The VT DOE, under the leadership of the Project Director, will manage contracts related to ongoing support for the VADR vertical data reporting and ODS implementations. VT DOE will ensure that the ongoing cost for hosting services is included in their annual IT budget after the project is over.

Highly qualified VT DOE Project Managers will work closely with the VADR I-Team to ensure project coordination with other federal and state-funded education initiatives, avoiding duplication of work and leveraging other resources to support LDS goals and tasks.

D.3 - Project Partners

District Partners

A key partner in the VADR project is the **Vermont Data Consortium (VDC)**. This non-profit organization was formed in 2004 by Vermont school districts to work collaboratively with VT DOE during the initial implementation of the EDW. The VDC currently provides training and data services to member districts. The VADR Project includes funding support (contractual) to increase Vermont Data Consortium staffing resources, specifically to provide experts who work with the VADR I-Team and supporting program teams as well as to expand their data analysis tool training and professional development on data-use to all Vermont LEAs. As the vertical reporting and operational data store deliverables are being rolled out to districts, the VDC staff will "be on the ground" in districts supporting the implementation and will continue to promote the use of the EDW and associated data tools to inform decisions and improve instruction. VT DOE will pursue budget appropriation from the legislature to support this work of our district partners on an ongoing basis after the VADR project is complete.

Research Partners

VT DOE has secured the commitment of a local research partner, the **Jeffords Center for Research**, who will advise the Commissioner and Governance Committee on data use, research and professional development strategies related to using data and research to inform instruction. Input from this partnership will drive LDS system development and ensure that educators understand how to use data to inform instruction and services to students. The **Jeffords Center for Research** is located at the University of Vermont and is funded through the U.S. Department of Education Fund for the Improvement of Education. The Jeffords Center mission is to provide the analysis and information required to promote effective policy decisions in education, the environment, health care, and effective government.

See ***Appendix B*** for letters of support/commitment from project partners.

Section E – Staffing

VT DOE realizes that undertaking a project of this scope requires significant staffing. Taking into account the important roles VT DOE staff already play in support of Department operations, the vast majority of VADR project work will be contracted to ODS & VR implementation vendors. Contracted vendors will have demonstrated experience developing similar systems in other states. VT DOE will take a vendor's previous statewide implementation experience, as well as their presence in Vermont districts, into account when selecting them as an implementation partner. Selecting vendors with an established Vermont presence will reduce the overall vendor coordination effort and help mitigate the inherent risk of involving multiple vendors.

While the contracted vendors will offer expertise and the resources to meet project goals, VT DOE recognizes that VADR project success demands dedicated participation and input from key state and district staff. This staffing plan combines the skills and experience of seasoned VT DOE and VDC personnel with the specialized expertise contractors will bring to VADR. The staffing plan is purposely designed so contracted positions are backed up with knowledgeable VT DOE and VDC staff serving on four program teams representing key project deliverables. These teams will ensure that system implementation is informed by intuitional knowledge of Vermont's K-12 system.

VADR Project Team Members

This section of VT DOE's proposal describes the teams that will work together to carry out VADR project work in order to achieve the specified deliverables. Key staff positions are listed under each team's description. This section identifies the VT DOE, VDC and external staff that will play key VADR roles, and summarizes their qualifications. *See **Appendix C** for resumes in the order personnel are mentioned in this section*. For those personnel to be hired through contracts, this section describes their project role and offers a summary of the qualifications VT DOE is seeking. A project organizational chart is included as **Artifact 6 of *Appendix A***.

*Note 1: Staff to be funded fully or partially by SLDS Grant indicated with *.*
Note 2: Some individuals will serve on multiple teams. Their FTEs are allocated by team.

Project Oversight

VADR Governance Committee Chair, Rae Ann Knopf, VT DOE, *(.10 FTE) Role:* Lead governance team charged with setting SLDS direction. Act as liaison between governance committee and identified committee advisors (e.g. PK-16 Council, Governor's Office, State Board of Education, etc.). Convey advisor goals to governance committee. Report back to stakeholders on SLDS progress. *Qualifications:* VT DOE Deputy Commissioner of Transformation and Innovation. Proven leader with extensive education and systems background.
Project Director, Brian Townsend, VT DOE, *(.30 FTE) Role:* Oversee and manage all project activities. Direct project teams, each of which play a significant role in meeting VADR's

identified deliverables. Responsible for ensuring that the project is responsive to K-12 stakeholders via ongoing involvement of the VADR Governance Committee. *Qualifications:* VT DOE IT Management since 2004. In this role, he played a key role in the design and implementation of department data collections and the EDW. He is an expert in information system implementation and data architecture and has a wide range of experience generating and managing vendor contracts for IT implementations. Brian has learned from his peer states through attending numerous SLDS Best Practice Conferences as well as NCES Forum Meetings & MIS Conferences.

VADR Implementation Team (I-Team)

VADR I-Team Responsibilities:

- Provide technical oversight, project management, and coordination of systems implemented via VADR.
- Implement change management processes to support the vertical reporting and ODS implementations and promote the use of data analysis tools at the district and individual school levels.
- Support, manage & participate in the work of program teams.
- Work with Project Director to manage district sub-grants related to local system implementations/customizations.

VADR I-Team Staff

***Technical Lead/Project Manager**, *Contract Personnel (1 FTE) Role:* Manage and coordinate the activities of external contracts; maintain and adhere to master project plan; coordinate state and vendor resources to ensure project stays on schedule and within budget; ensure delivery of business and technical requirements; supervise members of VADR I-Team; maintain close coordination with Project Director. *Qualifications:* Experience and expertise in large scale information system implementation, project management, contractor management, risk assessment and mitigation, information security and system architecture.

***Change Management Specialist**, *Contract Personnel (.50 FTE) Role:* Create and implement change management plans that minimize staff resistance and maximize staff engagement. This role will focus on the people side of change – including all the changes to local processes, systems and technology and job roles. *Qualifications:* Expertise in formal change management methodology such as ADKAR and knowledge of organizational change theory. Strong writing skills and the ability to communicate with multiple audiences effectively are essential.

***VDC Implementation Lead**, To Be Hired by VDC Board, VDC *(1 FTE) Role:* Serve as VDC's chief implementation resource. Coordinate the work of VDC VADR project resources. Participate in district rollouts. *Qualifications:* Experience and expertise in education district and school-based information system implementations. Expertise on the use of education information systems to inform local decision-making and classroom practice.

*Note: **Program Team Leads** serve as de facto members of the **VADR I-Team** through attendance/participation in weekly status meetings. Their FTEs and responsibilities are detailed below.*

Four Program Teams Representing Key VADR Deliverables

1. ODS & Vertical Reporting (VR) Team – Supports Deliverables 1: All K-12 Schools Participating in Automated Vertical Data Collection Process by May, 2015 **and 2:** Develop State-level Operational Data Store.
Note: *Due to the interwoven nature of these two strategies, one highly coordinated team will oversee implementation of both deliverables.*

- Work with VADR I-Team to provide state profile specifications for SIF & flat-file vertical reporting implementation.
- Work with ODS & VR implementation vendors to determine pilot district candidates & rollout plan.
- Work with VADR I-Team to ensure ODS & VR implementations meet other program team deliverable goals.
- Work with VADR I-Team and Project Director to manage district sub-grants related to local system implementations/customizations.

ODS & VR Team Staff
VT DOE ODS & VR Team Lead, Wendy Magee, VT DOE *(.30 FTE) Role:* VT DOE Technical & Project Management Lead for ODS & VR Implementation project. Coordinate VT DOE resources in support of vendor implementations. Manage VT DOE resources to ensure that existing data collections continue to function in parallel until ODS & VR are fully implemented. *Qualifications:* Twenty years system analysis & design experience. VT DOE IT Manager in charge of application development, database administration and network & workstation support. Degree in Technical Management with Project Management concentration.
***VDC District Data Coordinator**, John Ferrara, VDC, *(.20 FTE), Role:* Contribute to design of state profile. Participate in data mapping between the state profile, ODS and EDW for the purpose of ensuring the data needed by districts to inform instruction is included in vertical reporting framework. *Qualifications:* Expert in data warehousing, data analysis, data management and coaching educators on using data to inform instruction.
***VDC District Data Manager/Trainer,** To Be Hired by VDC Board, VDC, *(.20 FTE) Role:* Contribute to design of state profile. Participate in data mapping between the state profile, ODS and EDW for the purpose of ensuring the data needed by districts to inform instruction is included in vertical reporting framework. *Qualifications*: Experience in data management, report writing. Must have completed "Train the Trainer" program for the EDW and have a proven track record in helping educators use and interpret data. Attention to detail critical.
VT DOE Technical Expert, (Existing Vacant Systems Developer Position) To Be Hired by VT DOE IT Staff, VT DOE, *(.10 FTE) Role:* Offer applicable technical input to ODS/VR implementation. Serve as VT DOE expert in interpreting and troubleshooting SIF XML errors that may occur as part of the vertical reporting process. *Qualifications:* System Implementation experience. Experience working with and/or programming enterprise relational database systems (e.g. Oracle, SQLServer) and reporting tools (e.g. SQL Reporting Studio). Wide range of technical skills including experience with XML and .Net.

Primary VT DOE Data Experts, VT DOE, *Role:* 1) develop the state profile and ensure that data elements are included in the ODS & VR design; 2) develop business rules and data validity checks for ODS & VR design; 3) identify the edit reports that districts will need on the ODS. In addition, the Student Demographic Expert manages the unique identifier management systems for students and educators. *Note: Other experts will be consulted as required but FTE will be sporadic and nominal.*

Student Demographic Expert, Jennifer Perry, VT DOE *(.20 FTE) Qualifications*: Business analyst whose main role for the past ten years has been analyst and project manager for the student census collections and Vermont student and educator id management system.
Special Education Data Expert, Lucinda Morabito, VT DOE *(.10 FTE) Qualifications:* Program team data coordinator responsible for special education information.
Achievement Data Expert, Stephen Magill, VT DOE *(.10 FTE) Qualifications*: Statistician and expert on student assessment and adequate yearly progress data.
Finance, Discipline & Teacher-Student Link Data Collection Expert, David Kelley, VT DOE *(.20 FTE) Qualifications:* Business analyst whose role for the past six years has included analyst and project manager for IT educator census, school finance, incident, special education child count, and student-educator-course-transcript (SECT) collections.
Educator Demographic Expert, Glenn Bailey, VT DOE *(.20 FTE) Qualifications:* Data owner and analyst responsible for the collection and analysis of educator data.
Technical Education Expert, Dan Shephard, VT DOE *(.20 FTE) Qualifications:* Business analyst whose role includes supporting VT DOE division responsible for oversight and reporting on Vermont's career & technical education centers.

This team also includes the implementing contractors. Additional staff contributing less than .10 of an FTE include additional VT DOE experts in student discipline, educator, fiscal and program participation data.

2. EDW Team – Supports Deliverable 3: All VT DOE Data Analysis Tool Data Loads Automated by May, 2015.

- Design, create and populate the new data objects to be created as part of VADR.
- Identify source systems for data objects and provide the specifications for the scripts that will automate the data loads into the data analysis tools.
- Work with ODS & VR Team to ensure all required elements are collected through automated vertical reporting process.
- Provide specifications for new report templates and data loads to EDW Report Contractor.
- Develop and manage (non-grant-funded, in-kind) contract for secure data-driven reporting login.

EDW Team Members

EDW Team VT DOE Lead, Denise Sanders, VT DOE *(.30 FTE) Role:* Oversee the existing EDW contract. Oversee the required work to support data analysis tool enhancement as part of VADR project, including data object design and development, report design and development, and dashboard module implementation. *Qualifications:* VT DOE Project Manager since 2004.

Twenty years experience in data warehousing. Highly effective Implementation Lead/Project Manager responsible for the initial implementation and continued operation of Vermont's EDW.
***EDW Team VDC Lead,** John Ferrara, VDC *(.20 FTE) Role:* Coordinate VDC resources for EDW training, data object and report design. Responsible for soliciting input from school district staff with an emphasis on designing reports relevant to classroom teachers. *Qualifications:* Expert in data warehousing, data analysis, data management and coaching educators on using data to inform instruction.
Warehouse & ETL Engineer, Bill Schwartz, VT DOE, *(.25 FTE) Role:* Develop/Document Extract/Transform/Load (ETL) processes for all data going into the Education Data Warehouse (EDW). *Qualifications*: Almost 30 years IT experience. Ten years experience in data warehousing.
***District Data Manager/Trainer,** To Be Hired by VDC Board, VDC, *(.30 FTE) Role:* Assist in developing new data objects, implementing district dashboard, and ETL scripts. Coach district staff in use of the EDW. Conduct system testing. *Qualifications*: Experience in data management and report writing. Attention to detail. Must have completed "Train the Trainer" program for the EDW and have a proven track record in helping educators use and interpret data.
Data Experts: *Role:* Advise EDW team and implementation vendors on current data analysis tool data load preparation and processes. *Note: Other experts will be consulted as required but FTE will be sporadic and nominal.*

Educator Data Expert, Glenn Bailey, VT DOE *(.10 FTE) Qualifications:* Expert in educator census and credential data and post secondary educator preparation data.
Achievement Data Expert, Stephen Magill, VT DOE *(.10 FTE) Qualifications*: Statistician and expert on student assessment and adequate yearly progress data.
Special Education Data Expert, Mike Bailey, VT DOE *(.10 FTE) Qualifications:* Business analyst and expert in special education and IDEA data.
Teacher-Student/Course/Transcript Data Expert, David Kelley, VT DOE *(.20 FTE) Qualifications:* Business analyst responsible for VT DOE IT Team's student-educator-course-transcript (SECT) data collection.

This team also includes the implementing contractors and will include input from existing EDW vendor (support funded through existing contract). Additional staff contributing less than .10 of an FTE include a network administrator, database administrator and experts in student discipline, educator, fiscal and program participation data.

3. Ed*Facts* Team – Supports Deliverable 5: All Ed*Facts* Submission Files Capable of Being Automatically Generated by May, 2015.

- Work with ODS implementation vendor to design Ed*Facts* Data Mart.
- Provide contractors with Ed*Facts* submission file specifications and identify current source of data.
- Work with ODS & VR Team to ensure all required elements are collected through automated vertical reporting process.

Ed*Facts* Team Members
Ed*Facts* Team Lead, Stacey Murdock, Ph.D., VT DOE, *(.10 FTE) Role*: Coordinate the work of Ed*Facts* Team members. Report back to VADR I-Team. *Qualifications*: Dr. Murdock is an

experienced researcher and statistician, is also an expert on enrollment, drop-out, demographic and program participation data and manages the Ed*Facts* Coordinator.
Ed*Facts* Coordinator, Lila Denton, VT DOE *(.25 FTE) Role:* Define current source for Ed*Facts* submission file extracts. Provide contractors with submission file specifications. Ensure system generated Ed*Facts* submission files meet federal guidelines. *Qualifications*: Lila has served as Ed*Facts* Coordinator for the past 6 years. She is an experienced analyst and data manager.
Ed*Facts* Data Providers: *Role:* Advise Ed*Facts* Coordinator and implementation vendors on current Ed*Facts* data collection and data preparation processes. *Note: The role these data experts will play is important but FTE will be sporadic and nominal as EdFacts Coordinator generally knows the source of all EdFacts data. VT DOE data providers are often the same resources identified as Data Experts on other program teams.*

4. Growth Model Team – Supports Deliverable 6: Develop Growth Model Reporting Tool.

- Work with ODS implementation vendor to design Growth Model Data Mart.
- Work with VADR I-Team to define growth indicators that will form the basis for growth model, incorporating VADR Governance Committee input.
- Work with ODS & VR Team to ensure needed elements/indicators collected through automated vertical reporting process.
- Work with ODS to design growth model reporting tool.

Growth Model Team Members
Growth Model Team Lead, Lynne Eyberg, VT DOE *(.10 FTE) Role:* Coordinate the work of Growth Model Team. Report back to VADR I-Team. *Qualifications:* Ten years project management experience, specializing in the education sector.
Growth Model Subject Matter Expert, Michael Hock, VT DOE *(.20 FTE) Role:* Work with implementation vendors and Growth Model team to define growth model indicators and reports for Growth Model Data Mart. *Qualifications:* VT DOE Director of Educational Assessment. Member of SMARTER Balanced Assessment Consortium Executive Committee.
Achievement Data Expert, Stephen Magill, VT DOE *(.10 FTE) Role:* Provide data and analysis support to Growth Model Team. Assist in the design of Growth Model Data Mart & Reporting Tool. *Qualifications*: Statistician and expert on student assessment and adequate yearly progress data.
Achievement Statistician, Sarah Lindberg, VT DOE *(.10 FTE) Role:* Provide data and analysis support to Growth Model Team. Assist in the design of Growth Model Data Mart & Reporting Tool. *Qualifications*: Statistician and expert on student assessment and adequate yearly progress data.

Personnel Providing Expertise to all Teams
Research Advisor, Dr. Herman "Bud" Meyers, Director of Jeffords Center for Research, University of Vermont, *(Nominal FTE), Role*: To provide research advice and expertise on the development of the department's research agenda, informing data system development. *Qualifications*: Dr. Meyers is an experienced researcher and statistician and is also an expert on enrollment, drop-out, demographic and program participation data.

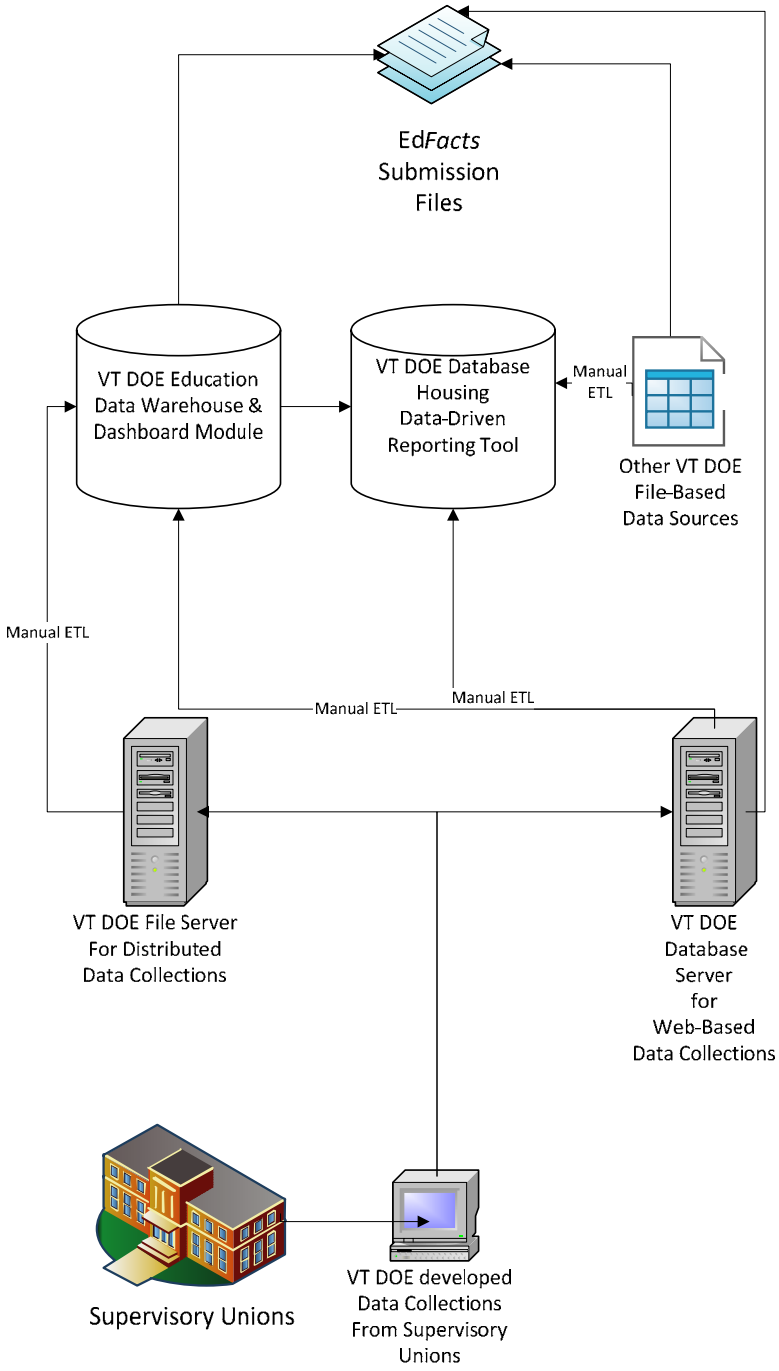
Enhanced VDC Training

In support of **Deliverable 4:** Establish Enhanced Training Delivery System, VDC staff will be involved in nearly all aspects of the VADR project. Grant funds contracted to the VDC will be used to supplement the training program currently in place. These contracted funds will allow the VDC to hire the two new positions – *VDC Implementation Lead* and *VDC Data Manager/Trainer* – described above and to supplement the project related activities of VDC's existing Data Coordinator (John Ferrara). These funds will not supplant the VDC member dues paid by districts for specialized training, data preparation, district warehouse creation and district warehouse data load services.

Through their participation in deliverable activities and pilot rollouts, VDC trainers will enhance their training and professional development on data use and decision-making using the EDW, data-driven reporting tool and EDW dashboard module to also include training and coaching relating to the new tools (ODS ETL & Data Management console & Growth Model Reporting Tool) developed as part of the VADR project. VDC trainers will utilize and enhance documentation delivered to the VADR team by implementation vendors to create a customized training and professional development program in support of all Vermont districts. The VDC will expand their trainings via multiple, repeated regional trainings to ensure that ALL Vermont districts receive training on these important tools, regardless of their VDC membership status.

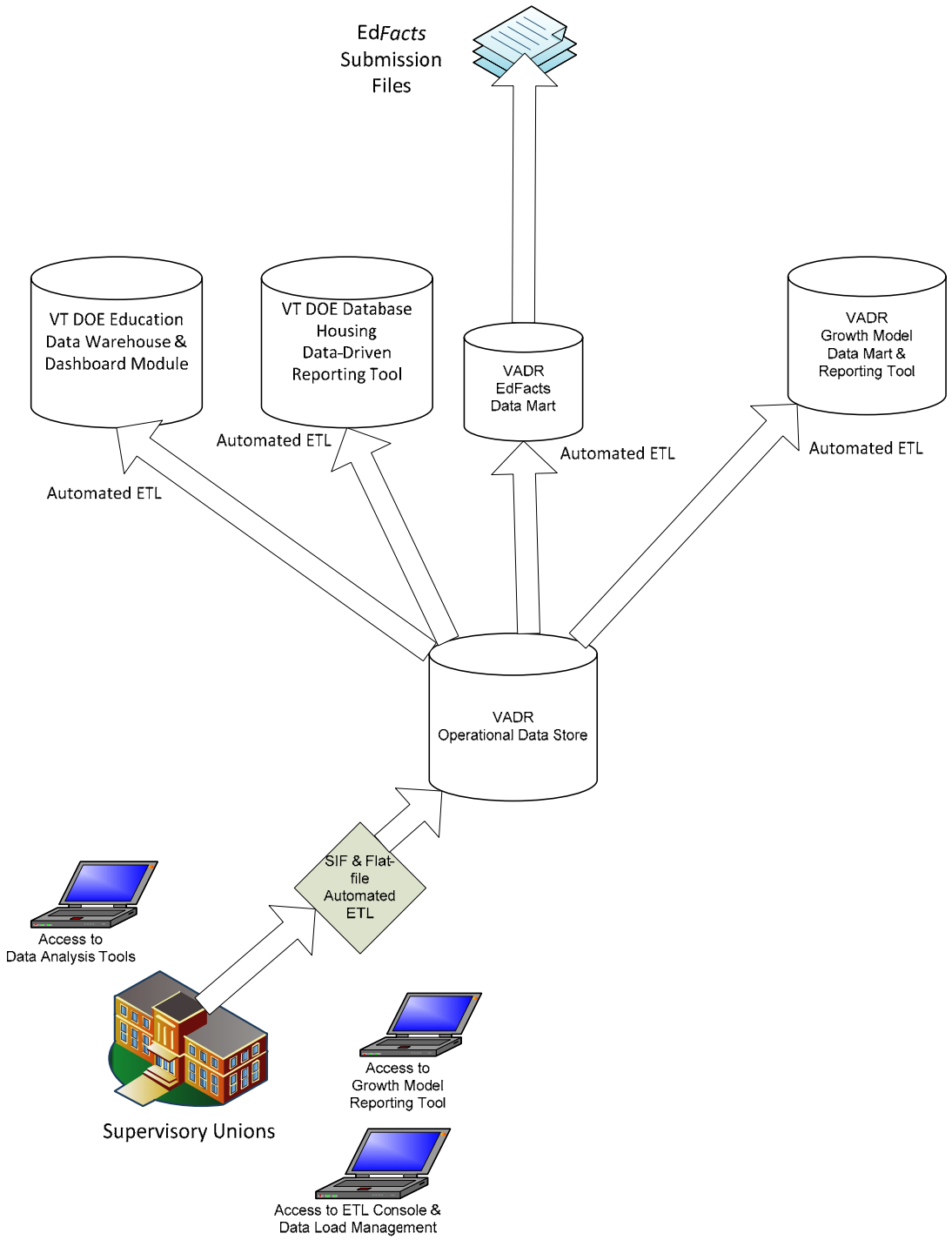
Artifact 1 - Current System Diagram

Vermont Department of Education
Current Data Reporting Structure



Artifact 2 - Proposed System Diagram

Vermont Department of Education
Proposed Data Reporting Structure through VADR Project



Artifact 3 - Required Pre-Award Foundational Work Funded by VT DOE

The Vermont Department of Education wants to ensure the success of this grant project. To ensure the foundations for this success are in place, we are completing the following tasks prior to the grant award. This work will ensure that we will have navigated through a significant portion of the procurement process by the time the grant award is issued. Contracts mentioned below will not be issued unless grant is awarded and scope of work is approved.

Item	Task/Milestone	Responsible Party	Start Date	End Date	Coordination with other Grants/Initiatives/Standards
0.1	Update documentation of current state reporting requirements to inform the development of the State Operational Data Store	• Project Director and IT Staff	12/11	1/12	This work will be done prior to LDS award to inform LDS implementation.
0.2	Conduct Metadata Gap Analysis: Existing State Reporting Requirements to SIF Specification	• Project Director and IT Staff	1/12	2/12	This work will be done prior to LDS award to inform VADR implementation.
0.3	Design and develop new (course, class, & schedule) EDW data objects and associated ETL processes.	• EDW Team	1/12	2/12	This work will be done prior to LDS award to inform VADR implementation.
0.4	Document Data Analysis Tool ETL Processes to inform ETL automation through ODS.	• EDW Team	2/12	4/12	This work will be done prior to LDS award to inform VADR implementation.
0.5	Develop and Issue RFPs for Contracted Staff	• Project Director and IT Staff	1/12	2/12	This work will be done prior to LDS award to inform VADR implementation. RFP will reflect scope of work in LDS proposal.
0.6	Develop and Issue RFPs for VADR Implementation Contractors (VR, ODS)	• Project Director and IT Staff	2/12	3/12	This work will be done prior to LDS award to inform VADR implementation. RFP will reflect scope of work in LDS proposal.

Artifact 4 - Proposed Project Plan

ID	Task Name	Duration	Start	Finish	Predecessors
1	**1. All K-12 Schools Participating in Automated Vertical Data Collection Process by May, 2015.**	**778 days**	**Tue 5/1/12**	**Thu 4/23/15**	
2	**1.1 Project Planning**	**16 days**	**Tue 5/1/12**	**Tue 5/22/12**	
3	1.1.1 Set Project Scope	3 days	Tue 5/1/12	Thu 5/3/12	
4	1.1.2 Vendor Coordination Meetings	5 days	Fri 5/4/12	Thu 5/10/12	3
5	1.1.3 Establish Communications Plan	5 days	Fri 5/4/12	Thu 5/10/12	3
6	1.1.4 Draft Project Plan	8 days	Fri 5/11/12	Tue 5/22/12	3,5
7	**1.2 Vertical Reporting (VR) Analysis & Design**	**96 days**	**Tue 5/22/12**	**Wed 10/3/12**	
8	**1.2.1 Requirements Gathering**	**68 days**	**Tue 5/22/12**	**Fri 8/24/12**	
9	1.2.1.1 VT DOE Delivers State SIF Organizational Profile to Implementation Vendor	0 days	Tue 5/22/12	Tue 5/22/12	6
10	1.2.1.2 Flat-file (non-SIF) Specifications Defined	10 days	Wed 5/23/12	Tue 6/5/12	6
11	1.2.1.3 Vertical Reporting Validation Rules Defined	50 days	Wed 6/6/12	Tue 8/14/12	10
12	1.2.1.4 Error Reporting Defined	8 days	Wed 8/15/12	Fri 8/24/12	11
13	**1.2.2 ODS Vendor Coordination**	**61 days**	**Wed 6/6/12**	**Wed 8/29/12**	
14	1.2.2.1 VR Vendor Delivers Data Input Specifications to ODS Vendor	1 day	Wed 6/6/12	Wed 6/6/12	10
15	1.2.2.2 Lead Time for ODS Development	60 days	Thu 6/7/12	Wed 8/29/12	14
16	**1.2.3 SIS Vendor Coordination: SIF Agent Implementation / Flat File Preparation**	**53 days**	**Wed 6/6/12**	**Fri 8/17/12**	
17	1.2.3.1 VR Vendor Delivers VR Specifications to other SIS Vendors	1 day	Wed 6/6/12	Wed 6/6/12	10
18	1.2.3.2 SIF Agent Implementation / Customization (each SIS vendor works with their districts)	50 days	Thu 6/7/12	Wed 8/15/12	17
19	1.2.3.3 Non-SIF SIS Vendors prepare system extract files	50 days	Thu 6/7/12	Wed 8/15/12	17
20	1.2.3.4 Identify VR Pilot Districts (6)	2 days	Thu 8/16/12	Fri 8/17/12	18,19
21	1.2.4 VR Vendor Designs/Procures/Sets up System (Hardware & Software)	25 days	Mon 8/27/12	Fri 9/28/12	12
22	1.2.5 VR Vendor Prepares System Documentation for SEA and LEAs	5 days	Mon 8/27/12	Fri 8/31/12	12
23	1.2.6 Develop Implementation/Rollout/Testing/Training Plan	10 days	Mon 8/20/12	Fri 8/31/12	20
24	1.2.7 VR Implementation Vendor Develops Collection & ODS Transfer Plans	25 days	Thu 8/30/12	Wed 10/3/12	12,15
25	**1.3 Vertical Reporting Implementation/Rollout/Training**	**641 days**	**Thu 11/8/12**	**Thu 4/23/15**	
26	1.3.1 Pilot Implementation/Rollout/Training (10 days per LEA)	50 days	Thu 11/8/12	Wed 1/16/13	24,62,63
27	1.3.2 Develop Rollout Plan/Schedule for Remaining Districts	10 days	Thu 1/17/13	Wed 1/30/13	26
28	1.3.3 Implement/Rollout/Training VR to Remaining 54 LEAs & 3 Tech Districts (10 days per LEA)	580 days	Thu 1/31/13	Wed 4/22/15	27
29	1.3.4 VR Vendor Hands Off Training to VDC	1 day	Thu 4/23/15	Thu 4/23/15	28
30	**2. Develop State-level Operational Data Store.**	**782 days**	**Tue 5/1/12**	**Wed 4/29/15**	
31	**2.1 Project Planning**	**16 days**	**Tue 5/1/12**	**Tue 5/22/12**	
32	2.1.1 Set Project Scope	3 days	Tue 5/1/12	Thu 5/3/12	
33	2.1.2 Vendor Coordination Meetings	5 days	Fri 5/4/12	Thu 5/10/12	32
34	2.1.3 Establish Communications Plan	5 days	Fri 5/4/12	Thu 5/10/12	32
35	2.1.4 Draft Master ODS Project Plan	8 days	Fri 5/11/12	Tue 5/22/12	32,34
36	**2.2 ODS Analysis & Design**	**202 days**	**Tue 5/1/12**	**Wed 2/6/13**	
37	**2.2.1 ETL & Case Management Requirements Definition**	**35 days**	**Wed 5/23/12**	**Tue 7/10/12**	
38	2.2.1.1 Gather ETL & Case Management Use Scenarios	10 days	Wed 5/23/12	Tue 6/5/12	35
39	2.2.1.2 ODS Vendor Develops ETL & Case Management Software Structure	20 days	Wed 6/6/12	Tue 7/3/12	38

Artifact 4 – Proposed Project Plan, cont.

ID	Task Name	Duration	Start	Finish	Predecessors
40	2.2.1.3 ODS Vendor Documents ETL & Case Management Software	5 days	Wed 7/4/12	Tue 7/10/12	39
41	**2.2.2 Vertical Reporting & Add'l Data Collection Analysis**	**105 days**	**Thu 6/7/12**	**Wed 10/31/12**	
42	2.2.2.1 Receive Data Input Specifications from Vertical Reporting Vendor	1 day	Thu 6/7/12	Thu 6/7/12	14
43	2.2.2.2 Gather EdFacts Reporting Specifications	1 day	Wed 6/20/12	Wed 6/20/12	122,42
44	2.2.2.3 Gather Data Analysis Tool Load Specifications	1 day	Wed 10/10/12	Wed 10/10/12	143,42
45	2.2.2.4 Gather Growth Model Data Mart Specifications	1 day	Fri 6/8/12	Fri 6/8/12	138,42
46	2.2.2.5 ODS Vendor Performs Gap Analysis of VR Specifications and Needed Data	10 days	Thu 10/11/12	Wed 10/24/12	42,43,44,45
47	2.2.2.6 ODS Vendor Generates File Specifications for Additional Data Collections (non-VR)	5 days	Thu 10/25/12	Wed 10/31/12	46
48	**2.2.3 LEA Vendor Coordination (SIS, SPED, HR, Finance): Mapping for ETL/Flat File Preparation**	**192 days**	**Tue 5/1/12**	**Wed 1/23/13**	
49	2.2.3.1 ODS Vendor Delivers Add'l File Specifications to LEA Vendors	1 day	Thu 11/1/12	Thu 11/1/12	47
50	2.2.3.2 Non-SIF Vendors prepare system extract files	50 days	Tue 5/1/12	Mon 7/9/12	
51	2.2.3.3 ODS Vendor works with LEA vendors to enable SIF or prepare custom ETL	50 days	Thu 11/8/12	Wed 1/16/13	63
52	2.2.3.4 Identify ODS Add'l Data Collection Pilot Districts (6)	5 days	Thu 1/17/13	Wed 1/23/13	50,51
53	**2.2.4 ETL Console Error Reporting**	**20 days**	**Thu 10/25/12**	**Wed 11/21/12**	
54	2.2.4.1 Error Reports Definition	5 days	Thu 10/25/12	Wed 10/31/12	39,46
55	2.2.4.2 ODS Vendor and VR Vendor Build Error Reports into ETL Console	10 days	Thu 11/1/12	Wed 11/14/12	54
56	2.2.4.3 ODS & VR Vendors Document Error Reporting System	5 days	Thu 11/15/12	Wed 11/21/12	55
57	2.2.5 ODS Vendor Designs/Procures/Sets up System (Hardware & Software)	30 days	Thu 11/1/12	Wed 12/12/12	47
58	2.2.6 ODS Vendor Prepares System Documentation for SEA and LEAs	10 days	Thu 11/1/12	Wed 11/14/12	47
59	2.2.7 Develop Implementation/Rollout/Testing/Training Plan	10 days	Thu 1/24/13	Wed 2/6/13	52
60	2.2.8 ODS Vendor Develops Add'l Data Collection Plans to Close Data Gaps	25 days	Thu 11/1/12	Wed 12/5/12	47
61	**2.3 ODS Vendor Develops ODS for Vertical Reporting**	**10 days**	**Thu 10/25/12**	**Wed 11/7/12**	
62	2.3.1 ODS Vendor Coordinates Receipt of VR Data with VR Vendor	5 days	Thu 10/25/12	Wed 10/31/12	24,46
63	2.3.2 ODS Vendor Creates ODS	5 days	Thu 11/1/12	Wed 11/7/12	62
64	**2.4 One-time Data Migration from Current VT DOE Data Collection Environment**	**32 days**	**Thu 11/8/12**	**Fri 12/21/12**	
65	2.4.1 ODS Vendor Writes queries to capture historical data	20 days	Thu 11/8/12	Wed 12/5/12	61
66	2.4.2 ODS Vendor Executes ETL to move historical data	2 days	Thu 12/6/12	Fri 12/7/12	65,62
67	2.4.3 VT DOE UAT of historical data migration	10 days	Mon 12/10/12	Fri 12/21/12	66
68	**2.5 ODS Vendor Implements Add'l Data Collection to Close Data Gaps**	**590 days**	**Thu 1/24/13**	**Wed 4/29/15**	
69	2.5.1 ODS Vendor collects data from pilot districts	20 days	Thu 1/24/13	Wed 2/20/13	52,46
70	2.5.2 Develop Rollout Plan/Schedule for Remaining Districts	5 days	Thu 2/21/13	Wed 2/27/13	69
71	2.5.3 Rollout Add'l Data Collection/Trainings to Remaining 54 SUs & 3 Tech Districts	565 days	Thu 2/28/13	Wed 4/29/15	70
72	2.5.4 ODS Vendor Hands Off Training to VDC	0 days	Wed 4/29/15	Wed 4/29/15	71
73	**3. All VT DOE Data Analysis Tool Data Loads Automated by May, 2015.**	**783 days**	**Tue 5/1/12**	**Thu 4/30/15**	
74	**3.1 Project Planning**	**16 days**	**Tue 5/1/12**	**Tue 5/22/12**	
75	3.1.1 Project Scope Set as Part of Task 2.1.1 of ODS Project Planning	1 day	Tue 5/1/12	Tue 5/1/12	
76	3.1.2 Vendor Coordination Meetings	5 days	Fri 5/4/12	Thu 5/10/12	32
77	3.1.3 Establish Communications Plan	5 days	Fri 5/4/12	Thu 5/10/12	32
78	3.1.4 Master ODS Project Plan Drafted as part of Task 2.1.4	8 days	Fri 5/11/12	Tue 5/22/12	32,34

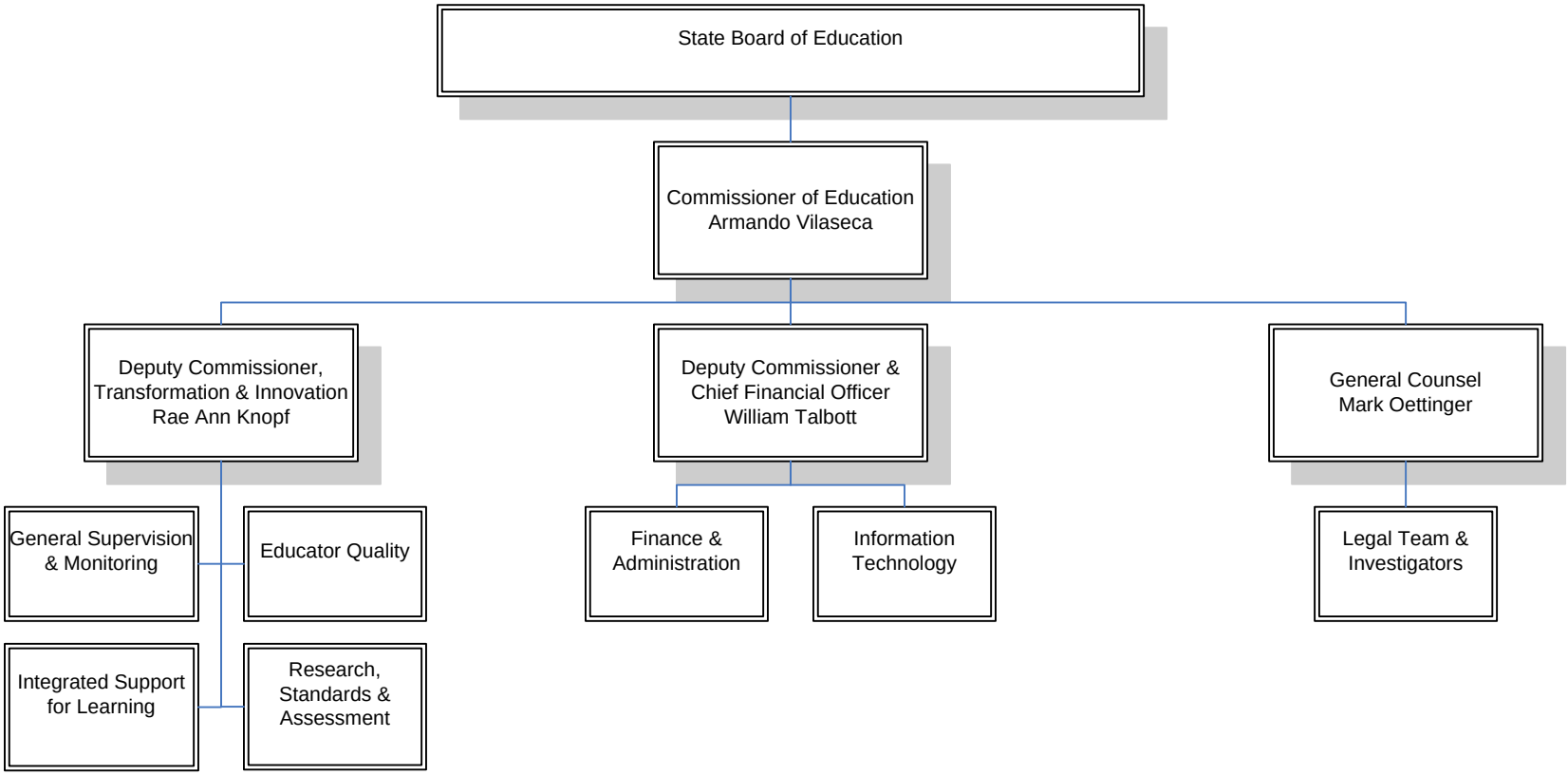
Artifact 4 – Proposed Project Plan, cont.

ID	Task Name	Duration	Start	Finish	Predecessors
79	**3.2 Requirements Definition**	**11 days**	**Wed 5/23/12**	**Wed 6/6/12**	
80	3.2.1 VT DOE Delivers Data Analysis Tool (i.e. EDW, DASH, Reports Tool) ETL Specs to ODS Vendor	1 day	Wed 5/23/12	Wed 5/23/12	78
81	3.2.2 ODS Vendor Compiles State Data Source File Specifications for population of each tool	10 days	Thu 5/24/12	Wed 6/6/12	80
82	**3.3 ODS Vendor Creates Initial Data Analysis Tool Load Processes**	**60 days**	**Thu 11/8/12**	**Wed 1/30/13**	
83	3.3.1 ODS Vendor Creates Initial EDW Load Processes	20 days	Thu 11/8/12	Wed 12/5/12	81,61
84	3.3.2 ODS Vendor Creates Initial EDW Dashboard Module Load Processes	20 days	Thu 12/6/12	Wed 1/2/13	83,61
85	3.3.3 ODS Vendor Creates Initial Data-Driven Reports Tool Processes	20 days	Thu 1/3/13	Wed 1/30/13	84,61
86	**3.4 ODS Vendor Establishes Initial Load Processes**	**25 days**	**Thu 1/31/13**	**Wed 3/6/13**	
87	3.4.1 ODS Vendor Establishes Processes using existing source files	10 days	Thu 1/31/13	Wed 2/13/13	83,84,85,63
88	3.4.2 VT DOE UATs Load Processes	15 days	Thu 2/14/13	Wed 3/6/13	87
89	**3.5 ODS Vendor Begins Using VR Collected Data in Load Processes**	**50 days**	**Thu 1/17/13**	**Wed 3/27/13**	
90	3.5.1 ODS Vendor Modifies Load Processes to begin to use available data	30 days	Thu 1/17/13	Wed 2/27/13	26
91	3.5.2 VT DOE UATs Load Processes	20 days	Thu 2/28/13	Wed 3/27/13	90
92	**3.6 ODS Vendor Establishes Load Processes Using only collected data**	**80 days**	**Fri 1/9/15**	**Thu 4/30/15**	
93	3.6.1 ODS Vendor Modifies Load Processes to use only collected data	60 days	Fri 1/9/15	Fri 4/3/15	94SF
94	3.6.2 VT DOE UATs Load Processes	20 days	Fri 4/3/15	Thu 4/30/15	28FF,71FF+1 day
95	**4. Establish Enhanced Training Delivery System.**	**225 days**	**Tue 5/1/12**	**Mon 3/11/13**	
96	**4.1 Stakeholder Meeting**	**2 days**	**Wed 5/23/12**	**Thu 5/24/12**	
97	4.1.1 Finalize Scope of VDC Services	1 day	Wed 5/23/12	Wed 5/23/12	6,35
98	4.1.2 Establish Communications Plan	1 day	Wed 5/23/12	Wed 5/23/12	6,35
99	**4.1.3 Gap Analysis**	**2 days**	**Wed 5/23/12**	**Thu 5/24/12**	
100	4.1.3.1 Determine List of LEAs that are not currently VDC members	1 day	Wed 5/23/12	Wed 5/23/12	6,35
101	4.1.3.2 Retrieve contact information from all districts	1 day	Thu 5/24/12	Thu 5/24/12	100
102	**4.2 Expand EDW to support secure data driven reporting tool**	**75 days**	**Tue 5/1/12**	**Mon 8/13/12**	
103	4.2.1 Project Plan with Selected Vendor	5 days	Tue 5/1/12	Mon 5/7/12	
104	4.2.2 Develop secure data driven login / reporting process	50 days	Tue 5/8/12	Mon 7/16/12	103
105	4.2.3 VDC UAT	20 days	Tue 7/17/12	Mon 8/13/12	104
106	**4.3 Expand Data Analysis Tool Training to All Districts**	**85 days**	**Tue 8/14/12**	**Mon 12/10/12**	
107	4.3.1 Develop Rollout Plan	5 days	Tue 8/14/12	Mon 8/20/12	105
108	4.3.2 Schedule & Hold 10 Regional Data Tools Trainings for all Districts	80 days	Tue 8/21/12	Mon 12/10/12	107
109	**4.4 VDC Attends Pilot Rollouts**	**63 days**	**Thu 11/8/12**	**Mon 2/4/13**	
110	4.4.1 VDC Attends VR Pilots (2)	20 days	Thu 11/8/12	Wed 12/5/12	24,63
111	4.4.2 VDC Attends ODS Pilots (2)	8 days	Thu 1/24/13	Mon 2/4/13	46,52
112	**4.5 VDC Prepares Customized Documentation**	**78 days**	**Wed 11/14/12**	**Mon 3/4/13**	
113	4.5.1 VDC Receives VR and ODS Documentation from Vendors	0 days	Wed 11/14/12	Wed 11/14/12	22,58
114	4.5.2 VDC Customizes Documentation based on Pilot Observations	20 days	Tue 2/5/13	Mon 3/4/13	110,111
115	4.6 VDC Incorporates VR/ODS Training into Professional Development	5 days	Tue 3/5/13	Mon 3/11/13	114
116	**5. All EdFacts Submission Files Capable of Being Automatically Generated by May, 2015.**	**782 days**	**Tue 5/1/12**	**Wed 4/29/15**	
117	**5.1 Project Planning**	**16 days**	**Tue 5/1/12**	**Tue 5/22/12**	

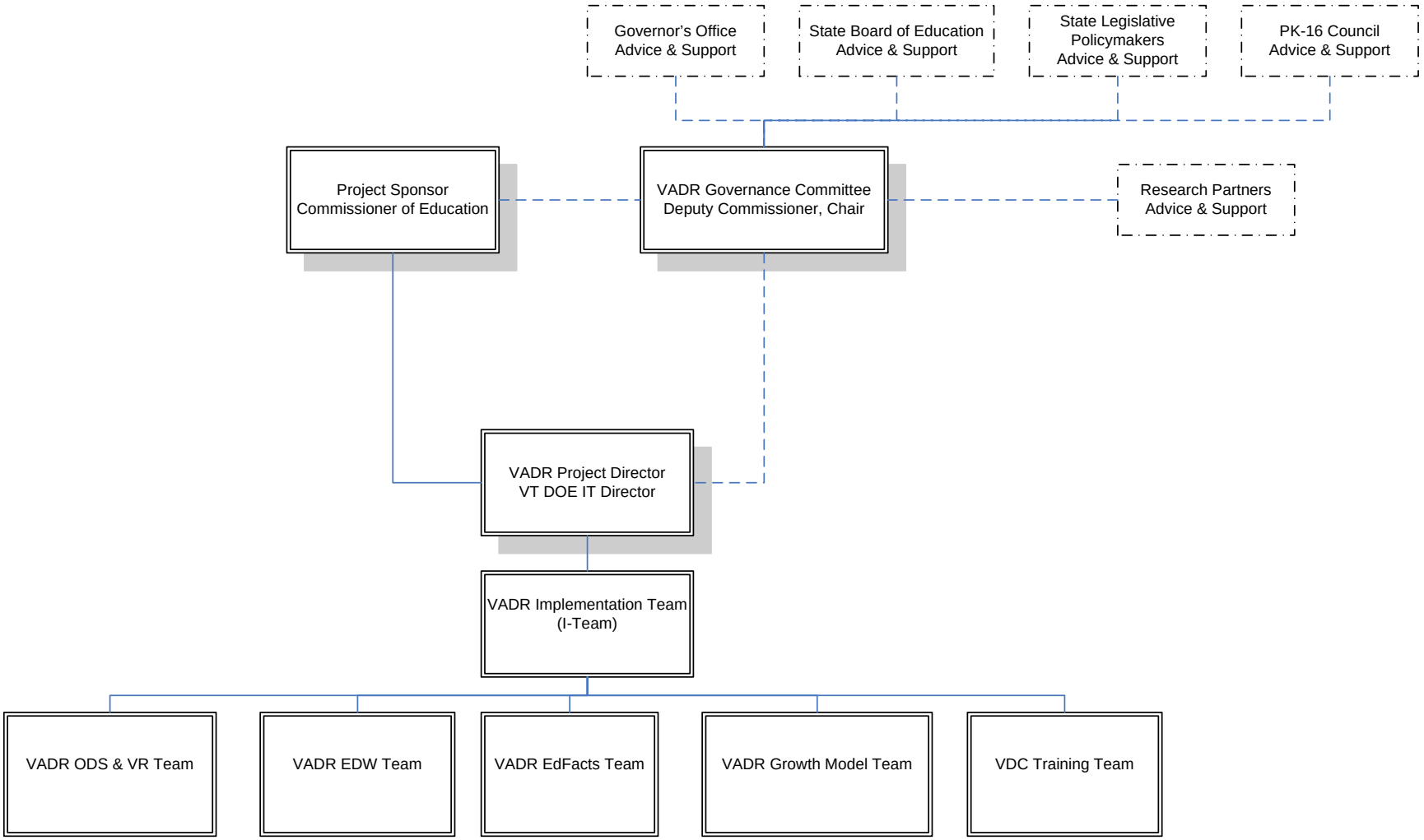
Artifact 4 – Proposed Project Plan, cont.

ID	Task Name	Duration	Start	Finish	Predecessors
118	5.1.1 Project Scope Set as Part of Task 2.1.1 of ODS Project Planning	3 days	Tue 5/1/12	Thu 5/3/12	
119	5.1.2 Establish Communications Plan	2 days	Fri 5/4/12	Mon 5/7/12	32
120	5.1.3 Master ODS Project Plan Drafted as part of Task 2.1.4	8 days	Fri 5/11/12	Tue 5/22/12	32,34
121	**5.2 EdFacts Data Mart Requirements Definition**	**20 days**	**Wed 5/23/12**	**Tue 6/19/12**	
122	5.2.1 VT DOE EdFacts Coordinator & Data Providers Define Source of EdFacts Data	20 days	Wed 5/23/12	Tue 6/19/12	120
123	**5.3 ODS Vendor Designs EdFacts Data Mart**	**50 days**	**Wed 6/20/12**	**Tue 8/28/12**	
124	5.3.1 ODS Vendor Creates EdFacts Data Mart	10 days	Wed 6/20/12	Tue 7/3/12	122
125	5.3.2 ODS Vendor Creates ETL Process for non-collected source files	20 days	Wed 7/4/12	Tue 7/31/12	124
126	5.3.3 ODS Vendor Creates Initial EdFacts File Extract Reports from EdFacts Data Mart	10 days	Wed 8/1/12	Tue 8/14/12	125
127	5.3.4 VT DOE verifies EdFacts Submission File Generation	10 days	Wed 8/15/12	Tue 8/28/12	126
128	**5.4 ODS Vendor Incorporates Collected Data into EdFacts Data Mart Population**	**40 days**	**Thu 2/21/13**	**Wed 4/17/13**	
129	5.4.1 ODS Vendor Modifies EdFacts Data Population to include collected data	20 days	Thu 2/21/13	Wed 3/20/13	26,69
130	5.4.2 VT DOE verifies EdFacts Submission File Generation	20 days	Thu 3/21/13	Wed 4/17/13	129
131	5.5 Verification that all LEA data is collected for EdFacts Files	30 days	Thu 3/19/15	Wed 4/29/15	71FF
132	**6. Develop Growth Model Reporting Tool.**	**237 days**	**Tue 5/1/12**	**Wed 3/27/13**	
133	**6.1 Project Planning**	**16 days**	**Tue 5/1/12**	**Tue 5/22/12**	
134	6.1.1 Project Scope Set as Part of Task 2.1.1 of ODS Project Planning	3 days	Tue 5/1/12	Thu 5/3/12	
135	6.1.2 Establish Communications Plan	5 days	Fri 5/4/12	Thu 5/10/12	32
136	6.1.3 Master ODS Project Plan Drafted as part of Task 2.1.4	8 days	Fri 5/11/12	Tue 5/22/12	32,34
137	**6.2 Growth Model Data Mart Requirements Definition**	**20 days**	**Wed 5/23/12**	**Tue 6/19/12**	
138	6.2.1 ODS Vendor Meets with VT Stakeholders to define growth indicators	10 days	Wed 5/23/12	Tue 6/5/12	136
139	6.2.2 ODS Vendor and VT Stakeholders Design Growth Reporting Tool	10 days	Wed 6/6/12	Tue 6/19/12	138
140	**6.3 ODS Vendor Designs Growth Model Data Mart**	**90 days**	**Wed 6/20/12**	**Tue 10/23/12**	
141	6.3.1 ODS Vendor Builds Growth Model Data Mart & Reporting Tool	40 days	Wed 6/20/12	Tue 8/14/12	139
142	6.3.2 ODS Vendor Populates Growth Model Data Mart with Historical Data	20 days	Wed 8/15/12	Tue 9/11/12	141
143	6.3.3 VT DOE UATs Growth Model Data Mart & Reporting Tool	20 days	Wed 9/12/12	Tue 10/9/12	142
144	6.3.4 ODS Vendor Documents Growth Model Data Mart & Reporting Tool	10 days	Wed 10/10/12	Tue 10/23/12	143
145	**6.4 ODS Vendor Begins Using Collected Data in Growth Model Data Mart**	**30 days**	**Thu 1/17/13**	**Wed 2/27/13**	
146	6.4.1 ODS Vendor Modifies Data Mart Population to use collected data	20 days	Thu 1/17/13	Wed 2/13/13	26
147	6.4.2 VT DOE UATs Growth Model Data Mart & Reporting Tool w/ Collected Data	10 days	Thu 2/14/13	Wed 2/27/13	146
148	**6.5 ODS Vendor Delivers Training to State and District Stakeholders**	**20 days**	**Thu 2/28/13**	**Wed 3/27/13**	
149	6.5.1 ODS Vendor Holds Regional Growth Model Data Mart & Reporting Tool Trainings	20 days	Thu 2/28/13	Wed 3/27/13	147
150	6.5.2 ODS Vendor Hands Off Training to VDC	0 days	Wed 3/27/13	Wed 3/27/13	149

Artifact 5 - Vermont Department of Education Organizational Chart, 12/2011



Artifact 6 – VADR Project Organizational Chart, 12/2011



Artifact 7 – Description of VADR Teams and Roles

Team/Role	Responsible Party(ies)	What does it do?	How will it work with other teams?
VADR Sponsor	• Commissioner of Education	State statute requires him ultimate authority over state contracts issued by the VT DOE. He will be responsible for ensuring stakeholders have a voice in the direction of the system while ensuring tax payer money is used efficiently and effectively.	He will remain informed and engaged in the project through routine updates by the Project Director. He will promote the project and its importance to citizens, educators, legislators and governor. He will promote the importance of high quality information for informing policy and practice. He will ensure that VT DOE employees will use this information to inform and evaluate programs.
VADR Governance Committee	• Representatives of Stakeholders across the K-12 Community. • Deputy Commissioner of Education, Chair	This committee advises the commissioner of education on the direction of the system and how it may be used most effectively. Governance Committee receives support and direction from the Governor's Office, State Board of Education, Vermont Legislative Policymakers, Vermont's PK-16 Council and Research Partners.	This committee is the gold standard of K-12 experts. They will inform the priorities for indicators, research and report development. They will assist the VADR implementation team in breaking down barriers and will be cheerleaders of the system.
VADR Project Director	• IT Director	Oversee the VADR project, its teams and vendors	Ensure the systems are implemented using IT best practices and standards. Ensure the project stays on time and budget. Ensures resources are available to the project. Ensures all stakeholders are engaged. Provides technical assistance and expertise to

Team/Role	Responsible Party(ies)	What does it do?	How will it work with other teams?
			program teams as required. Escalates problems to the Commissioner of Education when required.
VADR Implementation Team (I-Team)	• Tech. Implementation Lead/Project Manager • Change Management Specialist • VDC Implementation Lead • VT DOE Program Team Leads	Coordinate work of multiple contractors and project teams. Ensure that business requirements are implemented. Ensure that proper testing of system is completed. Maintain project plans. Develop and execute change management plans. Escalate issues to Project Director as required. Ensure coordination of project teams.	Solicit clarifications on business requirements from the program teams (ODS & VR, EDW, Ed*Facts*, and Growth Model Teams). Ensure business rules and validity checks provided by the program teams are incorporated in system documentation and requirements and are included in test plan. Keep Project Director informed of project status.
ODS & VR Team	• VT DOE Lead • VDC Data Experts • VT DOE Data Experts • VT DOE Technical Expert • ODS Vendor • VR Vendor	Implementation team for ODS & VR deliverables. Solicits programmatic experts as required. Maintains continual contact with vendors and their work.	Keeps VADR I-Team informed of project status. Allows VADR I-Team to coordinate ODS & VR program team work with work of other teams. Escalates concerns to VADR I-Team. Participates in weekly update meetings with VADR I-Team.
EDW Team	• VT DOE and VDC Project Co-Leads • Warehouse & ETL Engineer • VT DOE Data Experts • VDC Data Manager • EDW Vendor • ODS Vendor • VR Vendor	Implementation team for EDW & Data Analysis Tool ETL enhancement activities. Solicits programmatic experts as required. Maintains continual contact with vendors and their work.	Keeps VADR I-Team informed of project status. Allows VADR I-Team to coordinate EDW program team work with work of other teams. Escalates concerns to VADR I-Team. Participates in weekly update meetings with VADR I-Team.

Team/Role	Responsible Party(ies)	What does it do?	How will it work with other teams?
	• Data-Driven Reports Secure Login Vendor		
Ed*Facts* Team	• VT DOE Lead • Ed*Facts* Coordinator • ODS Vendor • VR Vendor • VT DOE Data Experts	Implementation team for Ed*Facts* Data Mart & Submission Files. Maintains continual contact with vendors and their work.	Keeps VADR I-Team informed of project status. Allows VADR I-Team to coordinate Ed*Facts* program team work with work of other teams. Escalates concerns to VADR I-Team. Participates in weekly update meetings with VADR I-Team.
Growth Model Team	• VT DOE Lead • VT DOE Growth Model Expert • VT DOE Data Experts • ODS Vendor	Design & Implementation team for Growth Model Data Mart & Reporting Tool with input from the VADR Governance Committee.	Keeps VADR I-Team informed of project status. Allows VADR I-Team to coordinate Growth Model program team work with work of other teams. Escalates concerns to VADR I-Team. Participates in weekly update meetings with VADR I-Team.

Artifact 8 – PK-16 Council Statute

The Vermont Statutes Online

Title 16: Education

Chapter 99: GENERAL POLICY

16 V.S.A. § 2905. Prekindergarten-16 council

§ 2905. Prekindergarten-16 council

(a) A prekindergarten-16 council (the "council") is created to help coordinate and better align the efforts of the prekindergarten-12 educational system with the higher education community in order to increase:

(1) postsecondary aspirations;

(2) the enrollment of Vermont high school graduates in higher education programs;

(3) the postsecondary degree completion rates of Vermonters; and

(4) public awareness of the economic, intellectual, and societal benefits of higher education.

(b) The council shall be composed of:

(1) the commissioner of education or designee;

(2) the commissioner of labor or designee;

(3) the president of the University of Vermont or designee;

(4) the chancellor of the Vermont State Colleges or designee;

(5) the president of the Vermont Student Assistance Corporation or designee;

(6) the president of the Association of Vermont Independent Colleges or designee;

(7) a principal of a secondary school selected by the Vermont Principals' Association;

(8) a superintendent selected by the Vermont Superintendents Association;

(9) a teacher selected by the Vermont-National Education Association;

(10) a member of the Building Bright Futures Council or designee;

(11) a technical education director selected by the Vermont Association of Career and Technical Center Directors;

(12) a representative from the business and industry community selected by the Vermont Business Roundtable;

(13) an advocate for low income children selected by Voices for Vermont's Children;

(14) a member of the house of representatives, who shall be selected by the speaker and shall serve until the beginning of the biennium immediately after the one in which the member is appointed;

(15) a member of the senate, who shall be selected by the committee on committees and shall serve until the beginning of the biennium immediately after the one in which the member is appointed; and

(16) a member of the faculty of the Vermont State Colleges, the University of Vermont, or a Vermont independent college selected by United Professions AFT Vermont, Inc.

(c) The council shall develop and regularly update a statewide plan to increase aspirations for and the successful completion of postsecondary education among students of all ages and otherwise advance the purposes for which the council is created, which shall include strategies to:

(1) ensure that every high school graduate in Vermont is prepared to succeed in postsecondary education without remedial assistance;

(2) increase the percentage of Vermonters who earn an associate's or higher level degree or a postsecondary certification;

(3) identify and address areas of educator preparation that could benefit from improved collaboration between the prekindergarten-12 educational system and the higher education community;

(4) promote early career awareness and nurture postsecondary aspirations;

(5) develop programs that guarantee college admission and financial aid for low income students who successfully complete early commitment requirements;

(6) enhance student engagement in secondary school, ensuring that learning opportunities are relevant, rigorous, and personalized and that all students aspire to and prepare for success in postsecondary learning opportunities;

(7) expand access to dual enrollment programs in order to serve students of varying interests and abilities, including those who are likely to attend college, those who are from groups that attend college at disproportionately low rates, and those who are prepared for a postsecondary curriculum prior to graduation from secondary school;

(8) develop proposals for statewide college and career readiness standards and assessments;

(9) create incentives for adults to begin or continue their postsecondary education; and

(10) ensure implementation of a prekindergarten-16 longitudinal data system, which it shall use to assess the success of the plan required by this subsection.

(d) Together with the secretary of administration or the secretary's designee, a higher education subcommittee of the council shall perform any statutory or other duties required of it, including duties in connection with the higher education endowment trust fund. The following members of the council shall be the members of the higher education subcommittee: the president of the University of Vermont, the chancellor of the Vermont State Colleges, the president of the Vermont Student Assistance Corporation, the president of the Association of Vermont Independent Colleges, the representative from the business and industry community, the member of the house of representatives, and the member of the senate.

(e) The legislative and higher education staff shall provide support to the council as appropriate to accomplish its tasks. Primary administrative support shall be provided by the legislative council.

(f) The council shall annually elect one of its members to be chair.

(g) The council shall meet at least quarterly.

(h) The council shall report on its activities to the house and senate committees on education and to the state board of education each year in January. (Added 2009, No. 133 (Adj. Sess.), { 2.)

The Vermont Department of Education (VT DOE) is pleased to enclose the following letters of support and of coordination and agreement. This evidence of coordination and support are listed below in the order in which they appear in this Appendix.

- Letters of Support:
  - Vermont's Congressional Delegation
  - Governor Peter Shumlin
  - Vermont State Board of Education Chair Fayneese Miller
  - Commissioner of Education Armando Vilaseca
  - SIF Association President Larry Fruth
- Letters of Coordination and Agreement:
  - Vermont Data Consortium (VDC)
  - The James M. Jeffords Center for Policy Research

Congress of the United States
Washington, DC 20510

December 15, 2011

The Honorable Arne Duncan
Secretary of Education
400 Maryland Avenue, SW
Washington, D.C. 20202-0008

Dear Secretary Duncan:

We write in support for the Vermont Department of Education's application for a Statewide Longitudinal Data Systems (SLDS) Grant and are pleased to bring this application to your attention. Vermont has an extremely strong commitment to quality education for all of its citizens. From our small, rural districts, which represent the majority of our schools, to larger districts, our schools continue to meet the high standards we set for our students and staff. The state continues its work to increase communication, collaboration, and the sharing of information across districts so all students will have access to equal educational opportunities.

Just as information technology has become an essential tool for our students, and technological literacy helps our children succeed in school and beyond, this is also true for our parents, educators, and administrators who are working to improve student success. Through this grant, the Vermont Department of Education can implement a stronger, more comprehensive longitudinal data system that includes all the required capabilities and elements needed to capture student data and inform educational policy and decision-making.

This longitudinal data system will help enhance Vermont's academic achievement by highlighting trends, showing both gaps and growth, and targeting areas that need improvement. Furthermore, timely, accurate, and quality data is essential for Vermont to achieve our goal of continued accountability and student improvement. Consistent and ongoing access to meaningful and relevant data will help Vermont meet this goal and make our education system more efficient and responsive to the needs of students, teachers, and administrators.

Thank you for giving this grant request the serious consideration it deserves. Should you have any questions about our support of this application or concerning the application itself, please feel free to contact us.

Sincerely,

PATRICK LEAHY
United States Senator

BERNARD SANDERS
United States Senator

PETER WELCH
United States Representative

PETER SHUMLIN
Governor

State of Vermont
OFFICE OF THE GOVERNOR
December 13, 2011

The Honorable Arne Duncan
Secretary, U.S. Department of Education
400 Maryland Ave, SW
Washington, D.C. 20202-0008

Dear Secretary Duncan,

I am writing to express my strong support for Vermont's application for a Statewide Longitudinal Data Systems (SLDS) grant. Our education system has always been a source of great pride for Vermonters, but we must continue do all that we can to ensure our students are given every opportunity to succeed in the 21st century.

I have made education a priority, and have worked closely with the Vermont Department of Education to develop a waiver to the Elementary and Secondary Education Act (ESEA), so we can develop an accountability system that truly reflects the values and goals of our state. Without a strong longitudinal data system, we will never be able to truly support the work of educators, track student progress over time, measure outcomes and plan for our students' future.

Vermont is one of only nine states without funding for this required system. Our students are the ones losing out, when their peers in other states have the access to and support from strong data systems. Our schools need this system to make informed decisions, to provide transparency, to facilitate research to improve outcomes for all students, and to ease the burden for state and federal requirements.

Establishing a longitudinal data system will be a key foundation for my *21st Century Classrooms: Connecting the DOTS* education initiative. *Connecting the DOTS* has recently completed programming for its third cohort of Vermont teachers and technology specialists. Over the course of the past three school years, the DOTS project has brought approximately 180 Vermont educators through a process of online and face-to-face professional development activities targeted at helping transform Vermont classrooms into 21st century learning environments.

In addition, my goal of establishing broadband access to every part of the state is well underway, including my goal of establishing broadband connectivity in all schools. We must utilize these 21st century tools in order to provide the best possible educational experience for all young Vermonters.

I strongly support this application and respectfully request your full consideration.

Sincerely,

Peter Shumlin
Governor

109 State Street • The Pavilion • Montpelier, VT 05609-0101 • www.vermont.gov
Telephone: 802.828.3333 • Fax: 802.828.3339 • TDD: 802.828.3345

State of Vermont
Vermont Department of Education
120 State Street
Montpelier, VT 05620-2501

December 12, 2011

Armando Vilaseca
Commissioner of Education
Vermont Department of Education
120 State Street
Montpelier, VT 05620

Dear Armando,

On behalf of the Vermont State Board of Education, I am pleased to commit our support to Vermont's Longitudinal Data System grant application, which will allow Vermont to implement the *Vermont Automated Data Reporting (VADR)* project.

If successful, the grant will establish a statewide, longitudinal data system to:

- foster the generation and use of accurate and timely data,
- support analysis and informed decision-making at all levels of the education system,
- increase the efficiency with which data may be analyzed to support continuous improvement of education services and outcomes,
- facilitate research to improve student academic achievement and close achievement gaps,
- support education accountability systems, and
- simplify the processes used by Vermont to make education data transparent through Federal and public reporting.

Highlights of the grant include

- an automated vertical data collection system and process,
- a state-level Operational Data Store (ODS), including an Ed*Facts* Data Mart and a Growth Model Data Mart, and
- enhancement of the existing Vermont Education Data Warehouse.

The successful grant application will also allow for more extensive training by schools' staff, for regular evaluation of the system's effectiveness, and the reconstitution of an SLDS Governance Committee.

In conclusion, implementation of the grant will further support and enhance the realization of the State Board's and Department's Strategic Plan.

We look forward to seeing the fruits of this work.

Sincerely,

Fayneese Miller

Fayneese Miller, Ph.D.
Chair, State Board of Education

State of Vermont
Vermont Department of Education
120 State Street
Montpelier, VT 05620-2501

The Honorable Arne Duncan
Secretary, U.S. Department of Education
400 Maryland Ave, SW
Washington, D.C. 20202-0008

Dear Secretary Duncan,

I am writing today to express my strong support for Vermont's application for a Statewide Longitudinal Data Systems (SLDS) grant, in order to use comprehensive, reliable, timely and actionable data to provide the best possible educational opportunities for our students.

Nearly a decade ago, the Department, through its district partnership with the Vermont Data Consortium (VDC), took the first step in providing this access by establishing the Education Data Warehouse (EDW). Since then, we have continued progress towards this goal by adding additional data analysis tools including a parameter-driven reporting tool and an EDW dashboard module. Despite having taken those useful steps, our current statewide longitudinal data system has many shortcomings.

The Institute of Education Sciences established the SLDS grant program to assist states in establishing data systems that:

- foster the generation and use of accurate and timely data,
- support analysis and informed decision-making at all levels of the education system,
- increase the efficiency with which data may be analyzed to support continuous improvement of education services and outcomes,
- facilitate research to improve student academic achievement and close achievement gaps,
- support education accountability systems, and
- simplify the processes used by states to make education data transparent through Federal and public reporting.

Vermont is one of nine states yet to receive funding under this program.

The overall vision of the Vermont Automated Data Reporting (VADR) project is to supplement and improve upon the current analytic tools by automating data collection, loading and reporting processes, and adding a new tool to measure and monitor growth in achievement by students, schools and LEAs.

Vermont's districts currently spend an inordinate amount of time meeting state and federal reporting requirements. The VADR project will automate the vertical collection of student, educator and course information from all districts within the state utilizing the Schools Interoperability Framework (SIF) as well as automated transfer of extract files or web services for those districts that do not have SIF-enabled source systems.

The automation of this data reporting process will result in cleaner data, efficiency of time and effort, ease of access, elimination of DOE manual data loads, growth model development and streamlined federal reporting.

We are committed to preparing all students with the skills and abilities to pursue college and workforce directions of choice when exiting the K-12 system. In order to do this effectively, we need to reframe the paradigm of education accountability towards a system where all student learning matters and is evaluated for the benefit of the student and their family over time, where teaching is designed with a responsibility to student learning progress. We cannot accomplish these goals without a cornerstone of reliable data.

The vision for increased accountability and accessibility of information expressed by yourself and President Obama is forward-thinking and critical to improving education outcomes in our country. It does, however, come with significant challenges for rural states which must implement systems of the same scope as larger states, without the economy of scale and access to staff with the skill sets required to implement enterprise systems. It is my sincere hope that this proposal is accepted and Vermont receives the funds necessary to implement the systems needed to improve education outcomes for our students.

Thank you for your time and attention.

Sincerely,

Armando Vilaseca, Commissioner
Vermont Department of Education

12.10.11

Armando Vilaseca, Education Commissioner
Vermont Department of Education
120 State Street
Montpelier, VT 05620-2501

Dear Commissioner Vilaseca:

On behalf of the over 3,200 global members of the SIF Association, we are excited to support the Vermont Department of Education's (VDOE) application – *The Vermont Automated Data Reporting Project* - to the U.S. Department of Education's State Longitudinal Data Systems Grant Program. We understand that the goal of this grant is to successfully develop and implement a longitudinal data system that permits the generation and use of accurate and timely data for informed decision-making at all levels of the education system. The SIF Association, since its inception, has been focused on allowing the identification, management, movement and utilization of data at all levels of the educational "pipeline". This proposal exemplifies that focus and makes real the possibilities that can occur by utilizing community developed, open technical data standards such as developed by the SIF Association community.

Our community is pleased that you are working to establish the K-12 foundation of a system that has the capacity to link information about individual students across time and across databases--including K-12, postsecondary, and work force--while protecting students' privacy consistent with applicable privacy protection laws.

I commend VDOE for the steps that you have already taken to build statewide student level data collections. Expanding those efforts to include more streamlined processes via SIF will serve to enhance the timeliness and validity of data being collected. If the grant is funded, I will be happy to work with VDOE and other project partners in continuing the development of a longitudinal data system that will provide information to address policy issues and program performance questions across all levels of Vermont's education system.

Best wishes for a successful grant application!

Sincerely,

Larry L. Fruth II, PhD
Executive Director / CEO
SIF Association

Vermont Data Consortium
250 Main Street, Suite 202
Montpelier, VT 05602
December 12, 2011

Armando Vilaseca
Commissioner of Education
Vermont Department of Education
120 State Street
Montpelier, VT 05620

Dear Commissioner Vilaseca:

The purpose of this letter is to outline an agreement between the Vermont Data Consortium (VDC) and the Vermont Department of Education regarding the role of the VDC within the LDS project. The VDC recognizes that it plays a major role in the project due to its unique combination of technical expertise and strongly cultivated relationships with Vermont districts. 40% of Vermont supervisory unions/districts are currently members of the VDC, and over the past five years the VDC has worked with 85% of all Vermont districts on data-related issues. These distinctive attributes will allow the VDC to support all Vermont school districts during the implementation of the statewide, longitudinal data system.

A project of this scope will require a number of services which the VDC is confident we can provide. Since 2004, the partnership between the Vermont Data Consortium and the Vermont Department of Education has conceptualized, implemented, maintained and expanded the Education Data Warehouse – arguably the most successful statewide education technology initiative to date. Given the established track-record of success, we strongly believe that the goals of the project are attainable.

From assisting in gathering local system specifications to data migration to ongoing training and support using the new reporting and analysis tools, the VDC is well prepared to do the work this project requires. In fact, it is the only educational organization in the state that regularly collaborates with all levels in the system - schools, districts, Education Service Agencies and the Department of Education - on data, reporting, analysis and school improvement issues. The VDC wholeheartedly supports the goals of the LDS project, and we look forward to being a leading participant in the project implementation.

Sincerely,

Bob Owens Brucie Donahue

Bob Owens & Brucie Donahue, Co-chairs
Vermont Data Consortium Board of Directors
www.vermontdata.org

The UNIVERSITY of VERMONT

The James M. Jeffords Center

Armando Vilaseca, Commissioner
Vermont Department of Education
120 State Street
Montpelier, VT 05620

Dear Commissioner Vilaseca:

I am pleased to endorse your initiative to establish a longitudinal data system for Vermont. The James M. Jeffords Center for Policy Research will work in collaboration with the State to provide answers to policy makers questions where the use of data collected and housed in this system will be a vital resource. For the past twenty years I have been involved in policy research activities where the State's existing data resources have enabled us to study important questions related to student performance on state assessments, drop-outs, special needs programs, homelessness and the quality of the teaching workforce. As you know, Vermont was a leader in the development of student-level data systems at both the local and state levels. The experience we have had with these activities will provide a solid basis for moving Vermont's systems to the next level of integration with other sources of data.

Our vision for the integration of longitudinal data systems at the state and local level was developed and enhanced with funding provided to link local curriculum and assessment development with the state level assessment and accountability systems over the past ten years. We have already seen the payoff of these efforts in the performance of Vermont students on the NAEP. I am convinced that Vermont's use of assessment data that linked student records over an eight year period provided professional development providers at our colleges and the university with vital performance data that has enabled them to target teacher training in mathematics in ways that have made these gains possible. This model is now being used to develop training programs in science where it is greatly needed.

During the past five years our doctoral students at the University of Vermont have had the unique and valuable opportunity to study complex problems related to student mobility, homelessness, autism, school and class size and the investment made in our schools through our Vermont Research Partnership (VRP.) The VRP, now an arm of the Jefford's Center, has conducted over fifty studies that have used data from both the Agency of Human Services and the Vermont Department of Education. The solutions to complex social policy problems will be best served by the continued collaboration of all Vermont's agencies. Children and families are not compartmentalized as entities. Serving their needs thus requires smart data systems that reflect the complexity and the integration of their lives. The next generation of longitudinal data systems will support this integration while protecting the privacy and integrity of the individuals whom it is designed to serve. We can accept no less as a standard.

H. Bud Meyers, Ph.D., Director
Farrell Hall • 210 Colchester Avenue •
Burlington, Vermont 05405
Tel. (802) 656-3161 • Fax (802) 656-3163 •
Email: jeffordscenter@uvm.edu • Website: www.uvm.edu/jeffordscenter

The Jeffords Center is a ready and willing partner in the design, construction and operation of the system you are proposing. I will be happy to participate in a research advisory council that will be tasked to advise the research and data agenda for Vermont's PK-20 system. Please let us know how we can be of any other help.

Yours,

H. Bud Meyers, Ph.D. Director

H. Bud Meyers, Ph.D., Director
Farrell Hall • 210 Colchester Avenue •
Burlington, Vermont 05405
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VERMONT
DEPARTMENT OF EDUCATION

Vermont Automated Data Reporting (VADR) Project

Appendix C – Résumés of Key Personnel

Rae Ann Knopf, M.S.W.

Profile

Accomplished senior executive – 26 years of experience in organizational development, start-up, improvement, and program design work in public and private education and treatment settings.

A strong and proven leader with high standards, an innate focus on results, with an excellent track record of helping teams through periods of intense change to create powerful learning opportunities for children in 10 states across the country.

Special Expertise

- Skilled facilitation of sustainable organizational change and development efforts within and across geographically diverse, educational, correctional, therapeutic, and children's services organizations
- Applying principles of group and organizational dynamics to leadership and administration
- Establishing learning communities where all young people including those struggling to achieve academic competence and social confidence - experience sustainable, positive change and growth
- Transformational leadership and unwavering stewardship through high stress situations – acquisitions, turnarounds, start-ups, periods of growth and sweeping organizational change
- Fiscal management
- State-wide policy and regulation development, site-based, state and national monitoring and improvement systems

Professional Experience

STATE OF VERMONT, DEPARTMENT OF EDUCATION, Montpelier, VT **2006-PRESENT**
State Education Agency

Deputy Commissioner, Education Transformation and Innovation – 10/09 - present
Provide vision, strategic planning and oversight for Department of Education program divisions, including Standards and Assessment, Life Long Learning, Student Support, Safe and Healthy Schools, Educator Quality and Licensing, and Independent and Federal Programs. Ensure the Department provides coherent support, leadership and guidance to the field in implementing effective educational practice and adhering to state and federal regulation in the delivery of educational services and use of federal and state funds.

Education American Recovery and Reinvestment Act Coordinator – 3/09-present
Coordinate and oversee the disbursement of $140m in education funding through ARRA and coordinate any and all education competitive grant applications connected to these funds. Lead the Vermont Race to the Top proposal development team. Report to the Commissioner.
Challenge: A significant influx of education funding with complex reporting obligations all to be managed in an extremely short timeframe.
Accomplishments:

- Incorporated work as much as possible into existing grants management and systems for disbursing funds.

- Encouraged cross department and cross agency collaboration in use of and disbursement of funds.
- Established high quality technical assistance for the field and timely clear reporting for the State Board of Education, Office of Economic Stimulus and Recovery, the Governor's office and school superintendents, principals and school boards.
- Formed steering committee to direct work of the Longitudinal Data Systems and Race to the Top grant applications
- Collaborated with existing departments to provide technical assistance to the field to use the funds in ways which would further the Vermont Department of Education Transformation efforts and employ evidence based practices to create long term achievement gains for students with short term funding.

Assistant Division Director, Student Support & Safe & Healthy Schools Team – 8/06-10/09

Developing and overseeing services to special needs students K-12 across the state public school system. Assistant Director in supervision of student support teams focused on special education, educational support systems development, interagency collaboration, monitoring, and Building Effective Supports for Teaching (BEST). Report to Director of Student Support and Safe & Healthy Schools Team.

Challenge: Focus departmental teams on evidence/research based practice and improvement systems to help schools positively affect learning outcomes and student participation in general educational environments; encourage cross team and departmental collaboration.

Accomplishments:

- Teams working more collaboratively with a common focus of raising student learning outcomes and increasing inclusion rates by coaching school teams to implement evidence based systems for improving school culture and individual student achievement. In 18 months time, our team has gone from doing this work with approximately 12 school teams to over 50.
- As Director of the State BEST team, revamped the application and approval system and facilitated strategic use of 100% of State Funded BEST and Act 230 grants to create maximum benefit to students by employing various evidence based practices – including re-designing the primary vehicle for training, the BEST Summer Institute.
- As Project Manager of a 5-year $2.6m State Improvement Professional Development Grant III, co-designed the Vermont Integrated Instruction Model (*VIIM for creating sustained coaching expertise across the State in implementing and integrating Responsiveness to Instruction, Positive Behavior Supports, and Differentiated Instruction.*)
- As State-wide Coordinator for Vermont Positive Behavior Supports (*PBS - a system of improving school climate and culture and inclusion rates and reducing behavior problems including suspension, expulsion and dropout*), led the development of a sustainable long term plan for coaching and support. Over 17 months, we scaled up from implementation in 0 schools across the state to 50 – we have been recognized nationally for leadership in developing and executing a sustainable state-wide implementation plan with integrity and alacrity.
- Collaborating project manager on early childhood program development, Foundations of Early Learning Series
- Leading State Education transformation efforts – re-designing Vermont schools to better prepare students for 21st Century learning and employment

CONSULTING **2003-2008**

Private consulting to various non-profit and for profit boards of directors and executive leaders.

Challenge: Working with diverse groups during times of ambiguity and indecision; bringing credible information and clarity to teams to facilitate informed decision making and minimize risk taking.

Achievements:

- Conducted national feasibility studies for non-profit organizations in the mid-west and south-east researching expansion options.
- Conducted strategic planning process for multiple non-profit boards and executive teams in for-profit organizations.
- Designed financial pro forma and start-up operating plans for various for-profit and non-profit entities.
- Created marketing and development plans for various for-profit and non-profit entities.

ASPEN EDUCATION GROUP, Cerritos, CA **2004-2006**

Leading provider of private residential therapeutic education in the United States
34 schools in 11 states - $300 m. annual revenue

Executive Director, Founder and Head, Bromley Brook Secondary School

Founded innovative private residential school using research and evidence based practices and systems. Design emphasized integration of therapeutic supports and clinical interventions with personal learning plans to facilitate individual success for bright, but previously underachieving adolescent girls experiencing emotional and behavioral difficulties.

Challenge: Fully design educational and clinical curriculum; build and staff an operating school within a 7 month start-up timeline.

Accomplishments:

- Designed an innovative approach to teaching adolescent girls with both diverse learning and significant emotional and behavioral support needs.
- Opened the school on budget and on time and grew the school to a staff of 40 with enrollment of 50 students from 14 different states in 21 months. The school continues to operate today at a full capacity of 80 students.
- Prepared school to complete the NEASC accreditation Vermont State Approval process
- Served on national standards development committee for Leadership and Education; developed model guidelines for start-up planning and implementation; contributing member of a private international consulting group focused on improving educational outcomes for all students; contributed to national standards development for therapeutic schools and programs.

Education

University of Pennsylvania, School of Social Policy and Practice
Master of Social Work - *Social Policy, Organizational Development*

Western Michigan University
Bachelor of Science – *Mathematics/Statistics*

BRIAN L. TOWNSEND – Director of Information Technology
Vermont Department of Education
Montpelier, Vermont

Qualifications:

- Proven track record in implementation of business driven, cost-effective, scalable and secure information technology solutions.
- Recognized ability to identify opportunities for leveraging resources across diverse functional areas of an enterprise.
- Confirmed commitment to achieving operational improvements through business process management, leveraging IT resources, and collaboration with Human Resources.
- Ability to identify and mediate challenges relating to changing core competency requirements of an organization.
- Experience in identification of strategic initiatives in direct response to challenges facing a diverse enterprise.
- Proven ability to build, manage and maintain highly-creative, focused project teams.
- Demonstrated experience in writing RFPs, leading proposal review and vendor selection process, and large-scale contract negotiation.
- Management and oversight of Department vendor engagements including systems built for Child Nutrition, Medicaid, Instructional Resource and Collaboration, Distance Learning and Longitudinal Data Systems.
- Key project team member of successful implementation of Statewide Education Data Warehouse –a collaborative project between the Department and Vermont school districts.
- Implemented approximately a dozen web-enabled transactional systems to improve Department operations. The Department's public facing information systems represent one third of all State of Vermont's public facing systems.
- Responsible for about 30 information and data collection systems across the Department.
- Helped develop and implement IT Staffing model team based on IT best practices and competencies in response to dramatic increase in federal requirements.
- Developed and maintained successful, collaborative relationships with professionals across the department, Vermont state government, and Vermont school districts.

Professional Experience:

Director of Information Technology (July 2010 – Present)
Vermont Department of Education
Responsible for ensuring Department's IT resources are leveraged and in direct support of Department's priorities. Accountable for management and performance of Department's IT Division, including business and statistical analysts, project managers, system developers, database administrators, data managers and helpdesk. Ensure the security of confidential student and educator data. Ensure implementation of industry best practices in network security, application development, information management and database administration. Manage IT procurement and vendor relationships. Provide leadership and insight on how IT can enable Department's programmatic teams. Advise Commissioner on data and technology issues. DOE Representative on the State Technology Collaborative advising the State's Chief Information Officer.

IT Manager - Technical Services (June 2004 – July 2010)
Vermont Department of Education
Initially responsible for Systems Development & Database Administration group within IT Division. Role expanded 06/2009 to also oversee Network Administration and Computer Support group. Merged group now called Technical Services. Direct supervision of six developers/DBAs/info tech specialists. Responsible for:

- Oversight of department server and workstation purchases, setup, installation and support
- Support for department networking and connectivity
- Department software purchases, installation and support (including anti-virus, laptop encryption, workstation operating systems, productivity suites such as Microsoft Office products, etc.)
- Working with vendors on all third-party technology applications and IT contracts
- Working with other state agencies on cross-agency projects and enterprise planning
- Oversight of all IT data collection projects including the analysis & design of any new internally developed systems
- Oversight of database administration including server setup, backup & recovery, upgrades and support
- Assisted w/ IT budgeting.

Responsible for all in-house development of Microsoft Access, SQL Server and Oracle based applications including development & security standards definition/enforcement, project planning/management, backup and recovery planning, and system maintenance/upgrades. Served as liaison between DOE and contracting firm staff on external development projects. Manages network administration and computer support group. Oversees inventory asset management, user account maintenance, file system, network printers, network backup/recovery, server maintenance/replacement, network infrastructure planning, and internal helpdesk operations.

Senior Systems Developer (November 2002 – June 2004)
Vermont Department of Education

- Designed and developed some of department's first online data collections
- Designed and implemented department's application security model for online data collections
- Provided support to other development and database administrator staff
- Helped design and form IT Division in response to increasing federal requirements

Promoted to IT Manager upon formation of IT Division

Contract Oracle ERP Consultant (May 2002 – January 2005)
Suss Microtec, Waterbury Center, VT
Served as Oracle Discoverer Reports Administrator and was responsible for numerous customizations to Oracle product including customization of canned Oracle forms/reports, creation of new reports, Oracle Applications consulting, and general system support.

Oracle Consultant (July 1999 – April 2002)
Ciber Enterprise Solutions, Indianapolis, IN
Responsible for the development of customizations to packaged Oracle software including but not limited to database objects, Oracle Forms & Reports, custom interfaces between Oracle and legacy systems, and Oracle Applications modules.

Other Professional Experiences:

Standards/Competencies

Business Process Management Body of Knowledge, Capability Maturity Model, NIST Information System Standards, Information System Risk Assessment, IT Audit Standards and Mediation Techniques

Enterprise Database/Applications Skills

Oracle Database Administration, PLSQL, SQL, Oracle Forms and Reports, MS SharePoint, Oracle Discoverer, Oracle Application Server, Linux

Desktop Applications

MS Office Suite, MS Visio, MS Project

Education:

Indiana University, Kelley School of Business
Bachelor of Science Degree, 1999
Majors: Accounting, Computer Information Systems Minor: Spanish

Wendy Magee

Professional Experience

Vermont Department of Education, Montpelier, VT
Information Technology Manager **Dec. 2011 – Present**
Oversee and supervise the operations of the Department of Education's IT network, development and database administration units. Oversee multiple development projects. Develop plans for major database, application or network maintenance or changes. Collaborate with senior staff to develop IT strategies and standards. Assist in development, networking, helpdesk, and database administration as needed.

Vermont Agency of Human Services, Waterbury, VT
Senior Systems Developer/Analyst **Oct. 2006 – Dec. 2011**
Oversaw the day-to-day operations of the Vermont State Hospital's IT functions and application use, development and interface. Review and recommend hardware and software. Assist in the development of the VSH IT strategic plan. Supervised developers and managed VSH IT projects. Extensive development and project management experience with Agency's Electronic Health Record. Managed SQL databases behind the applications. Provided technical oversight and support for usability issues and critical site problems, as needed.

- Led project to design and implement AHS Automated Adult Protection and Child Abuse Registry System to ensure compliance with new state legislation. The system is in use by several state agencies, hospitals, courts and other various organizations.

- Served as project manager to select and integrate new project management software agency wide. The goal of the ongoing project is to create a comprehensive overview of interdepartmental projects. The result will be streamlined initiatives and decreased redundancies.

- Managed the project team who implemented new pharmaceutical management system. This system automated previously manual tasks and created a reporting feature to reduce medication costs and improve accuracy of data.

Howard Center for Human Services, Burlington, VT
IT Consultant **May 2001 – Feb. 2008**
Consultant/Project Manager for their electronic health record. Review organizational needs and recommended best use of electronic health record. Designed and developed automated billing system that reduced task time over 30 hours each month. Led the conversion process from manual system that accounted for $500,000 in revenue each month.

Hector's Restaurant, Burlington, VT
Restaurant General Manager **Feb. 2002 – May 2004**
Managed the restaurant's day-to-day operations, staff and payroll, accounts payable and receivable and generated reports from POS system for profit/loss analysis.

VT Department of Mental Health, Waterbury, VT
IT Consultant **1992-2002**
IT contractor involved in all aspects of IT infrastructure and application development for the department. Involved heavily with Windows NT Networking, Exchange Server, SMS Server, application server, Unix server with Informix SQL database system, MS SQL Server, Crystal Reports and the project management for the implementation of the VT State Hospital's electronic health record system development, implementation and support.

VT Department for Social and Rehabilitation Services (SRS)
IT Consultant **1995-2000**
IT contractor for the Child Care Division which include the central office, 12 district offices for network administration, database development and support, hardware support. Networking system was Windows NT Server with Windows NT 4.0 desktop. Database development was in Informix SQL.

Certifications

Microsoft Certified Professional

Technical Skills

Microsoft Windows Server, MS Windows Client, MS Office Suite, MS SQL Server Installation and Administration, Exchange Server, Informix SQL, Linux/Unix, shell scripting, Vi, Powerbuilder, Crystal Reports, SQL Reporting Services, TransAct-SQL, PL/SQL, Oracle

Education

Bachelor of Science in Technical Management with a concentration in Project Management
DeVry University, Chicago, IL
Dean's List/Magna Cum-Laude
Graduation Date – May, 2012

Vermont Public Manager's Certification Program
Vermont Summit Center , Waterbury, VT
Estimated Graduation Date – November, 2012

Champlain College of Vermont
Burlington, VT
- Accounting/Data Processing Major

Community College of Vermont
Montpelier, Vermont
- Accounting Major

John Ferrara

Objective Continue to growth professionally in the area of transactional data systems, data warehousing, reporting and analysis.

Experience

2005-Present Vermont Data Consortium Montpelier, VT
Data Coordinator

- Lead Vermont Data Consortium (www.vermontdata.org) staff for maintaining and expanding local data warehouses, training end-users, and providing help-desk support
- Supervisor for VDC Data Technician in completion of above technical and support tasks
- Support the statewide implementation of the Education Data Warehouse (EDW) in partnership with the Vermont Department of Education (DOE) – system went live Fall 2005 (edwa.vermont.gov/ease-e)
- Part of the DOE-VDC team that wrote the EDW RFP, scored proposals, organized vendor demonstrations, selected the vendor and worked with the vendor to meet the project goals (creation of the EDW and acquisition of skills necessary for DOE-VDC self-sufficiency in maintaining and expanding the EDW)
- Responsible for creation of local "Common District Model" warehouses to supplement the EDW model using Sagent (OtisEd SDB Designer) as the ETL tool, TetraData's Matrix Administrator for managing the metadata of each local warehouse and SQLDeveloper and DBVisualizer for running SQL syntax directly on the database
- Worked with DOE to transfer the EDW from an Oracle to SQL Server database platform, convert from Sagent to SSIS as the ETL tool, and from SQLDeveloper to SQL Management Studio for direct database access.
- Lead trainer of TetraData end-user tool sets (Analyzer PC, Analyzer Web and Classroom Analyzer)
- Created or modified all current training materials to meet the evolving needs of school personnel
- Maintain and update the VDC website
- Produced custom reports in Microsoft Access and Excel for VDC school districts based on EDW data

2003-2005 Lamoille North Supervisory Union Hyde Park, VT
Data & Research Analyst

- District-wide data analyst for assessment, accountability, learning opportunity, climate, and School Quality Standards-related research and analysis.
- District representative to the Vermont Data Consortium as it was formed and began investigating data warehouse solutions

2002 Vermont Department of Education Montpelier, VT
Assistant Director of Standards & Assessment

- Supervisor of the ten-person team responsible for the implementation of the Vermont Comprehensive Assessment System and the Vermont Accountability System Based on Student Performance
- Member of two-person team directly responsible for program management of the New Standards Reference Examination (NSRE) state assessments in English/language arts and mathematics
- Oversight of the Vermont Developmental Reading Assessment (VT-DRA) and Vermont PASS science assessment on all data-related issues

1996–2001 Vermont Department of Education Montpelier, VT
Senior Research & Statistics Analyst

- Data/technical representative on a team responsible for a variety of policy-related issues such as the validity and reliability of the Vermont Comprehensive Assessment System, the creation of the Vermont Accountability System Based on Student Performance, the system of accountability of the School Quality Standards, and implementation of the Governor's Diploma
- Coordinate and implement the Vermont School Report (crs.uvm.edu/schlrpt/) and School Improvement Support Guide websites with the Center for Rural Studies at UVM
- Member of the assessment Technical Advisory Panel (TAP)
- Create and maintain the majority of complex databases for a variety of areas for the Policy, Planning and Operations (PP&O) and School Improvement Support (SIS) teams
- Produce the majority of the Department's standard and ad hoc assessment reports- education.vermont.gov/new/html/pgm_assessment/performance/archive/public_schools_A_D.html
- Serve as a main Department contact on data and evaluation-related issues with the Vermont Institute of Science, Math & Technology (VISMT)

1993–1995 Addison Northwest Supervisory Union Vergennes, VT
Middle School Mathematics Teacher

- Taught heterogeneous groups of students in a school beginning implementation of the middle school organizational model
- Implemented new inter-disciplinary units of study ("The Map" and "Dimensional Math")

1997–1999 Other related employment Vermont

College Course Instructor

- Team-taught *Introduction to Research Methods & Statistics* , University of Vermont, Summer 1998 & 1999

Independent Researcher

- Equal Educational Opportunity Act (Act 60) Case Study, Regional Lab at Brown University, 1997-1999

Internal Evaluator

- Vermont Institute for Science, Mathematics, and Technology (VISMT) 1998-1999

Education

1996–2003 University of Vermont Burlington, VT

- CAS - Certificate of Advanced Studies in Educational Leadership and Policy Studies
- All elective coursework for CAS completed in statistics
- All requirements for doctorate (Ed.D.) completed except final thesis

1993–1996 University of Vermont Burlington, VT

- M.Ed. - Master's Degree in Educational Leadership
- All elective coursework for M.Ed. completed in statistics

1992–1993 University of Vermont Burlington, VT

- Post-Baccalaureate Teacher Preparation Program (5th Year Certificate)
- Certified: Social Studies - Secondary Level
- Endorsement: Mathematics - Secondary Level

1987–1991 University of Vermont Burlington, VT

- B.A. - Bachelor of Arts, College of Arts and Science
- Majors: History, Political Science
- Minor: Mathematics

Jennifer Perry
Business Analyst
Vermont Department of Education
Montpelier, Vermont

Qualifications:

- More than 6 years of experience in all areas of data collection; including writing and researching business rules, data specs, code sets and edit checks, software application testing and deployment, collecting and cleaning data to provide necessary data and reporting requirements.

Professional Experience:

Vermont Department of Education
Business Analyst: June 2004 – Present
Responsibilities include: Implementation of changes and oversight of various annual student data collections; Testing data collection application software; Deployment of collections; Providing phone/technical support to field users; Fulfillment of various data requests within and outside Vermont Department of Education; Database development for purposes of cleaning data; Preparation and delivery of data sets to necessary project team members; Updating department data dictionary for collections; Maintaining student and educator identification numbers.

Systems Developer: July 2001-June 2004
Responsibilities included: Provided helpdesk and technical support to the field for all finance and student data reporting; Created data reporting and database user support instruction manuals; Tested and deployed data collections; Maintained application buglists, issue logs and data submission logs; Followed up with late data submissions, communicating data error checks, disputed students and various other data cleaning reports to the field; Fulfilled various data requests within and outside Vermont Department of Education; Maintained student and educator identification numbers.

Administrative Assistant: September1999-July 2001
Responsibilities included: Provided helpdesk and technical support to the field for all finance and student data reporting; Created data reporting and database user support instruction manuals; Tested and deployed data collections; Maintained application buglists, issue logs and data submission logs; Followed up with late data submissions, communicating data error checks, disputed students and various other data cleaning reports to the field; Fulfilled various data requests within and outside Vermont Department of Education; Maintained student and educator identification numbers. This position was reclassified (see above Systems Developer) based on a desk audit in 2001.

Lucinda Morabito

Education

- Master of Arts in Curriculum and Instruction with a concentration in Secondary Education
  Tennessee Technological University, May 1999
- Bachelor of Arts in Foreign Language (French)
  Tennessee Technological University, May 1993
  Minors: History, Mathematics, Psychology, and Sociology

Work Experience

Data and Reporting Coordinator October 2010 – Present Vermont Department of Education	Collect and report special education data, including Child Count, Personnel, and Discipline data. Create documentation for data collections. Provide technical assistance and training to the field. Respond to special education data requests and prepare data reports.
Education Research & Information Specialist III August 2005 – October 2010 Vermont Department of Education	Determined Highly Qualified Teacher (HQT) status of educators, assisted with state-wide Educator Census, communicated with and provided technical assistance to educators and administrators regarding federal HQT requirements and Educator Census data collection.
Math Program Assistant September 2004 – July 2005 The Vermont Institutes	Provided administrative and clerical support for program and staff, assisted with course registration and information management, prepared course materials, generated payment and reimbursement paperwork, supervised clerical support staff, assisted in planning and implementing SharePoint portal and information management system.
Office Manager January 2002 – April 2004 Small Business Development Center Farmingdale State College	Coordinated office schedule, answered four-line telephone, corresponded with the public, made travel arrangements, organized workshops, maintained accounting spreadsheets for grant and state accounts, processed purchase orders, ordered supplies, entered client data, prepared flyers and other advertisements, created and maintained website.
Instructional Support Associate (Flight Dispatcher) January 2000 – September 2001 Aviation Education Center Farmingdale State College	Coordinated daily flight operations of college aviation program, scheduled flights and simulator training with students and instructors, maintained student records and accounts, facilitated development of aviation Student Handbook, responded to public and student inquiries, created website.
Accounts Clerk June 1997 – April 1999 Tennessee's Early Intervention System/ Child Development Laboratory Tennessee Technological University	Processed requisitions/purchase orders, maintained data-bases, prepared spreadsheets and payroll, developed and estimated budgets and monthly expenses for six accounts (grant and state), communicated with contract personnel and with families of children served by the programs.
Other Work Experience 1993 – 1997 Tennessee Technology University	Various positions: Administrative Intern, Graduate Assistant, Program Assistant, Secretary

Stephen R. Magill

Professional Experience

Vermont Department of Education, Montpelier, VT 2001 – Present

Education Data Management and Analysis Director 2002 – Present
Primary responsibilities include managing a team of data analysts that:

- Maintains, cleans, and analyzes all Vermont data from the New England Common Assessment Program (NECAP).
- Manages the alternate assessment database.
- Is responsible for calculating Adequate Yearly Progress (AYP) for all schools and districts in Vermont and creating the associated assessment and AYP reports.
- Calculates the adjusted cohort graduation rate.
- Developed Title III database. Collects and maintains the state English Language Learner (ELL) data and calculates Title III Annual Measurable Achievement Objectives (AMAO).
- Submits all files related to Assessment, AYP, and ELL for the Education Data Exchange Network (EDEN).
- Provides statistical analysis and support as needed.

School Finance Analyst 2001 – 2002
Calculated and produced reports on school enrollments for state funding formula. Determined federal title allocations based on funding formulas. Provided school funding modeling for state legislature.

Northern Prairie Wildlife Research Center, Jamestown, ND 1999 – 2001
Biometrician
Major duties included developing a broad range of statistical methodologies in support of research biology, including adaptive sampling, logistic regression, kriging, and Monte Carlo methods such as bootstrapping and classification trees.

Education

University of Vermont, Burlington, VT

- Master of Science, Biostatistics May 1998
  Additional coursework:
  Terrestrial Wildlife *Wildlife Conservation*
  Introduction to GIS *Principals of Conservation Biology*
- Bachelor of Arts, Mathematics May 1989

Computer Skills

Microsoft Access, Microsoft Excel, Visual Basic for Applications, SPSS, SAS, Microsoft PowerPoint, and Maptitude.

Courses and Seminars Taken

Data-Driven Decision Making and Data Teams, Lamoille Area Professional Development Academy, May 2007.
Survival Analysis, University of Florida, March 2001.
Introduction to Wildland Fire Behavior and *Firefighter Training*, US Forest Service, June 2000.
Analysis of Messy Data: Mixed Models, Institute for Professional Education, March 2000.

Special Training

Outdoor Emergency Care Technician and Senior Alpine Patroller, National Ski Patrol, since 1992.

Curriculum Vitae

Graduate Studies for Doctor of Philosophy in Psychology
Concentration in Child and Adolescent Psychology
University of Vermont, 2000-2004

B.A. Psychology and Biology
University of Pittsburgh, 1989-1995

Professional Employment

Business Analyst

Information Technology Division
Vermont Department of Education
Years:2006-Present

Summer Sprouts Coordinator

The Family Center of Washington County
Years: 2004-2006

Assistant Preschool classroom teacher

The Family Center of Washington County
Years: 2004-2006

Research Assistant – Consumer Survey Project for Department of Developmental Services

Department: Psychology
Institution: University of Vermont
Years: 2000-2004

Research Assistant – Children's Upstream Services Evaluation Team

Department: Psychology
Institution: University of Vermont
Years: 1998-2000

Research Consultant – The Central Vermont Autism Collaborative Evaluation Team

Supervising Psychologists: Suzanne Santarcangelo
Institution: Private Consultation
Years: 1998-2000

Research Assistant – Access Vermont for at risk Teens

Department: Psychology
Institution: University of Vermont
Years: 1996-1999

Professional Memberships

Society for Research in Child Development

American Psychological Association, Division 6

PSI CHI, National Honors Society in Psychology

International Society of Infancy Studies

Publications

Biss, C., Pandina, N., Tighe, T., Kelley, D., Clough, C., & Nelson, S. (2000, March). *Children's Upstream Services Evaluation Report*. Paper presented at the 13th Annual Research and Training Conference for Children's Mental Health, Clearwater, FL.

Burchard, J., Tighe, T., Pandina, N., Kelley, D., Bramley, J., McGrath, W., & Boucher, K. (1998, April). *How to use evaluation data to improve, manage and sustain your service system*. Paper presented at Building on Family Strengths: A National Conference on Research and Services in Support of Children and Their Families, Portland, OR.

Burchard, J., Tighe, T., Pandina, N., Kelley, D., Bramley, J., McGrath, W., & Finkle, J. (1998, September). *How to use evaluation data to improve, manage and sustain your service system*. Paper presented at Rural Hub Family Meeting, Minneapolis, MN.

Force, M., Kelley, D., Pandina, N., Tighe, T., & Burchard, J. (2001, February). *Depression and its correlates in parents of young children: A service evaluation perspective*. Poster presented at the 14th Annual Research and Training Conference for Children's Mental Health, Tampa, FL.

Kelley, D (2002). *Analysis of Parental input for a specific Desire based Utterance: Differences in Individuals with Downs Syndrome and Autism.* Poster Presented at the 6th International Congress of Child Language Acquisition, Madison, WI.

Kelley, D., Tighe, T., Burchard, J., & Pandina, N. (2000, March). *Providing clinical utility to therapeutic case mangers and verifying measures of systemness using hierarchical linear modeling*. Poster presented at the 13th Annual Research and Training Conference for Children's Mental Health, Clearwater, FL.

Tighe, T, Kelley, D., Coe, M., Pandina, N., & Clough, C. (2000, March). *Informing clinical managers with empirical data: Using multivariate CBCL profiles*. Paper presented at the 13th Annual Research and Training Conference for Children's Mental Health, Clearwater, FL.

Tighe, T., Pandina, N., Burchard, J., Kelley, D., Coe, M., Bramley, J., & Clough C. (2001). Evaluation lessons learned in Vermont. In M Hernandez & S Hodges (Eds.), *Developing outcome strategies in children's mental health* (pp. 81-96). Baltimore, MD: Brookes Publishing Company.

Tighe, T., Pandina, N., Burchard, J., & Kelley, D. (1999, February). *Families First/Access Vermont one year outcome report*. Paper presented at the 12th Annual Research Conference, Research and Training Center for Children's Mental Health, University of South Florida, Clearwater, FL.

Glenn Bailey

EDUCATION

Ph.D. Candidate: General/ Experimental Psychology
University of Vermont, Burlington, VT
September 2000 to October 2003

M.A.: General/ Experimental Psychology
University of Vermont, Burlington, VT
Degree awarded March 2000

B.A.: Major: Psychology, Minor: Philosophy
University of New Hampshire, Durham, NH
Degree awarded May 1997

RELEVANT WORK EXPERIENCE

Data Analyst **State of Vermont, Department of Education,**
Montpelier, VT
May 2004 to present.

Responsibilities:

- As required by NCLB Title IIA, compile and analyze educator quality data for reporting to the US DOE on various aspects of educator quality
- As required by HEA Title IIA, compile and analyze educator quality data for reporting to the US DOE on various aspects of educator preparation
- As required by state statute, compile, analyze and interpret educator quality data for reporting to the Vermont Standards Board for Professional Educators and State Board of Education
- Track licensing status of teachers in Vermont public schools to identify unlicensed or inappropriately licensed teachers
- Provide data to internal and external stakeholders to inform and improve educator preparation and licensure and relicensure processes and requirements, and to monitor compliance with legal requirements
- Assist Vermont Institutions of Higher Education in tracking program completers and collecting data to meet their reporting requirements
- Design and maintain Educator Quality Team databases

- Query databases to create data files meeting specifications for EDEN reporting
- Query databases to create data files meeting specifications for import into Education Data Warehouse
- Provide technical assistance to School Districts in meeting federal reporting requirements
- Create reports related to Educator data in response to ad-hoc data requests from within the department, other state agencies and the public
- Provide technical support to the Educator Quality Team in the design of data collection and analysis systems
- Assist DOE, other state agencies and the public in framing appropriate questions to be answered by using educator quality data
- Provide training to DOE leadership with regards to data-based decision making
- As required by NCLB Title IIA, publish results of required data on Vermont Department of Education website

Data Analyst **Contracted by State of Vermont, Department of Education,**
Montpelier, VT
August 2003 to May 2004.

Responsibilities:

- Contracted to fulfill the federal Highly Qualified Teacher reporting requirements. Responsibilities included cleaning educator quality data, developing system to fulfill reporting requirements and producing and submitting reports to US DOE.

RELATED EXPERIENCE

Graduate Teaching Fellow, University of Vermont, Psychology Research Methods II. Assistant to William
Falls, Ph.D. January 2002 to May 2002.

Graduate Teaching Fellow, University of Vermont, Psychology Research Methods I. Assistant to Larry
Gordon, Ph.D. September 2001 to December 2001.

Graduate Teaching Fellow, University of Vermont, Psychology Research Methods II. Assistant to William
Falls, Ph.D. and Donald Saucier, M.A. January 2001 to May 2001.

Graduate Teaching Fellow, University of Vermont, Psychology Research Methods I. Assistant to Larry
Gordon, Ph.D. and Donald Saucier, M.A. September 2000 to December 2000.

Graduate Teaching Fellow, University of Vermont, Psychology Research Methods II. Assistant to David
Howell, Ph.D. and William Falls, Ph.D. January 2000 to May 2000.

Graduate Teaching Fellow, University of Vermont, Psychology Research Methods I. Assistant to Larry
Gordon, Ph.D. and Donald Saucier, M.A. September 1999 to December 1999.

Teaching Assistant, University of New Hampshire, Beginning Logic. Assistant to Joan Armstrong, Ph.D.
January 1997 – May 1997.

Teaching Assistant, University of New Hampshire, Beginning Logic. Assistant to Andrew Christie, Ph.D.
September 1996 – December 1996.

RESEARCH EXPERIENCE

Principal Investigator: Facilitating educational internalization.
Supervisor: Herbert Leff, Ph.D.
September 2000 - December 2000

Principal Investigator: Facilitating factors of the internalization of learning.
Supervisor: Herbert Leff, Ph.D.
September 1998 - March 2000

Research Assistant: Study on people's perception of control.
Supervisor: Steven Clark, Ph.D. Candidate.
September 1996 – May 1997.

Research Assistant: Study on the False Consensus Effect.
Supervisors: Glenn Geher, Ph.D. Candidate and Kathleen Bauman, Ph.D. Candidate.
January 1996 – May 1996.

Research Assistant: Study on helping behavior and preoccupation.
Supervisors: Glenn Geher, Ph.D. Candidate and Kathleen Bauman, Ph.D. Candidate.
January 1996 – May 1996.

DANIEL D. SHEPARD

daniel.shepard@state.vt.us

PROFESSIONAL EXPERIENCE

VERMONT DEPARTMENT OF EDUCATION – Montpelier, VT **2010 - 2011**

ISL Business Analyst: July 2011 – Present

- Responsible for maintaining accurate state educational records for Title I School Improvement Accountability, Public School Choice, Supplemental Education Services, and High School Completion data, (EDEN / EDFacts).
- Developing MS Access database for State Level Positive Behavior Intervention Support (PBIS) reporting needs.
- Vermont data team representative for New England Secondary School Consortium (NESSC).
- Analyze student data including student census, National Student Clearinghouse, and College Board data.
- Develop efficient reliable systems to ensure business and technical requirements are met.

Accounting Financial Specialist: March 2010 – July 2011

- Technical accounting duties making cost allocations to cost centers and auditing financial documents for State and Federal programs.
- Compiled data for the preparation of monthly and year-end financial reports and statements.
- Prepared and analyze financial budgets, schedules, disbursements, receipts, and expenditures.
- Performed a wide variety of accounting and bookkeeping tasks in complex fiscal grant programs and special projects, for Carl Perkins and Adult Basic Education programs.

INTERNATIONAL BUSINESS MACHINES – Essex Junction, VT 1983 – 2009

Cost Accounting / Systems Development:

- Performed Cost Accounting duties using Weighted Average Costing System.
- Developed and implemented a Job Costing Accounting system for Foundry shop.
- Developed Order Entry and Standard Costing system, and performed efficiency variance analysis.
- Created and maintained Cost of Ownership and Activity Based Costing Systems for manufacturing.
- Facilitated numerous Continuous Improvement problem solving workshops, results included reducing scrap by 75%, increase in capacity by 33%, and cycle time reduction of 21%.

EDUCATION

- BS, Accountancy, GPA 3.3, Bentley College, Waltham, MA
- AS, Accountancy, GPA 3.6, Champlain College, Burlington, VT

COMPUTER SKILLS AND TRAINING

Microsoft Skills Training:

- Publisher Level 1 – KnowledgeWave Training (June ’09)
- Microsoft Word Level 1,2,3 – KnowledgeWave Training (July ’09)
- Microsoft Excel Level 1,2,3,4 – KnowledgeWave Training (July ’09)
- Adobe Acobat Level 1 – KnowledgeWave Training (July ’09)
- Microsoft Access Level 1, 2 – KnowledgeWave Training (August ’09)

Microsoft Skills Training:

- Oracle PeopleSoft
- Education Data Warehouse (Data Analysis Suite – TetraData)
- Structured Query Language (SQL)

DENISE SANDERS

PROFILE

- Over 25 years experience managing, designing, developing, implementing and supporting IS/IT business solutions.
- Attained diverse business experience in Marketing, Distribution, Sales, Manufacturing, Finance, Engineering, Human Resources, IT and Enterprise Strategic Planning.
- Well-organized, committed, responsive and effective project manager, software developer, technical resource, and team leader.
- Customer needs and product quality focused, community and environmentally conscious.

PROFESSIONAL EXPERIENCE

Vermont Department of Education, Montpelier, VT.

IT Project Manager – Special Projects 5/04 – present

- Coordinated the RFP and vendor selection effort to provide the solution for the implementation of the Education Data Warehouse (EDW).
- For the EDW project, provide contract and project management, vendor interfacing, secure data model, dashboard and report design and development, policy development, implementation and training services.
- Project Manager and Technical Lead in the enterprise implementation of a grants management system.

Mo'town Consulting, Moretown, VT.

Principal Consultant / Founder 6/03 – 6/04

- Consultant providing graphic and web design and project management services to a variety of clients.
- Designed and developed the web site for the non-profit group, Mad River Neighborhood Association. See www.MRNAvt.org. Project Manager / Secretary / Treasurer responsible for the coordination of all research, fundraising and public relations activities for this association.
- Built the initial website for Vermont Technology College – Technical Extension Division. Provided significant design input.
- Designed and developed the initial web presence for a new property management group. Provided training and support to ensure owner's self-sufficiency.

Ben & Jerry's Homemade, Inc., South Burlington, VT.

Enterprise Integration Manager 1/96 – 6/03

- IS Manager responsible for the day-to-day operations, tactical project management, and long term strategic planning for Ben & Jerry's Finance, HR, Legal, Administration and IS

departments. Worked closely with other business areas, including Sales, Marketing and Supply Chain to ensure tight integration of all business systems. Directly supervised and developed a team of project leaders, business analysts, systems developers and technical architects.

- Founding member of the Project Management Office (PMO), consisting of key leaders from all business functions. The PMO is responsible for reviewing and prioritizing all company projects, ensuring alignment with the business strategies and efficient utilization of resources.
- Other contributions include: project and department budget preparation, vendor negotiations, project management, resource management, team leadership and development, disaster recovery and business continuity planning and the development and implementation of the department's Systems Development Life Cycle (SDLC) process.

LPA Software, Inc., South Burlington, VT.

Project Manager / Group Leader - Custom Software 5/89 – 1/96

- Received a SEMATECH Outstanding Contribution Award for project management and creativity in leading the team that designed and developed a risk assessment tool that became the cornerstone of member companies environmental and safety programs.
- Group Leader of LPA's Custom Software group. Managed multiple software development projects and provided marketing direction, product design and technical assistance.
- Responsible for Sales and Marketing interface with customers' top management during and after contract negotiations, customer training and support, and development of marketing, system and user documentation.
- Developed Computer Integrated Manufacturing applications that automated networked process manufacturing tools. This automation ensured consistent manufacturing and minimized product defects. Installed these applications internationally and provided operator documentation and training.
- Designed an application that modeled the manufacturing process with respect to the environmental, health and safety risks from the utilized chemicals. Led the team that developed this application and ensured the customers' development life cycle was followed. Process Engineers use this application to develop manufacturing processes that decreased environmental impact and improved employee safety.

United Engineers, Essex Junction, VT.

Senior Consultant 5/88 - 5/89

- Involved in the prototyping and documentation of a Computer Integrated Manufacturing system.
- Designed and implemented a measurement tool control system on a micro with interfaces to a PC Network and mainframe.
- Designed and prototyped a Statistical Process Control re-calculation system.

ICOT / Pathway Design Inc., Natick, MA.

Principal Software Engineer 6/84 – 5/88

- Principal Engineer responsible for the future direction of the company's full product line. Led multiple teams and was a contributing developer on concurrent projects.
- Worked closely with Marketing and Sales on product strategies. All products were geared to solving the micro to mainframe connection requirements for a standalone micro or a LAN gateway via 3270 and 3770 emulation.
- Other contributions included: network management and administration, training and supervision of engineers, OEM and distributor sales and technical support training, and pre and post sales support.

Unitrode Corporation, Watertown, MA.

Project Leader/Business Systems Analyst/Database Administrator 5/81 – 6/84

- Project Leader, Developer and Database Administrator on a variety of MIS application development projects including Sales and Marketing, MIS Operations, Finance and Accounting, Networking, Decision Support, Data Warehousing, Point of Sales, Inventory Control and Manufacturing.

EDUCATION and TRAINING

University of Massachusetts/Boston, B.A. in Sociology with a math concentration.

Champlain College, Burlington Vermont
Courses in Web Page Development, Graphic Design and Designing Media for the Web

Ben & Jerry's University

Project Management, Change Management, Leadership Training, Respect in the Workplace, Collaborative Planning & Decision Making, Individual Style Differences, Performance Development & Goal Setting, Performance Coaching, Performance Feedback, Diversity & Inclusion, Communication Styles, Effective Communications, Performance Documentation, Business Writing, Time Management

University of Massachusetts/Boston, Bunker Hill, Northeastern University, Boston University:
Courses in Basic, COBOL, Systems Analysis and Design, Assembler 8088/80186 and Data Communications.

William Schwartz

Professional Experience

Vermont Department of Education, Montpelier, VT 2003 – Present

Systems Developer III/Database Administrator
Primary responsibilities include managing Oracle 10g databases and SQL Server 2005 databases:

- Responsible for ETL processing of data to Education Data Warehouse. Monitor and maintain EDW space usage, database users, and assist project developers with troubleshooting issues.
- Responsible for loading, maintaining, and providing appropriate access to current and historical data regarding:
    - schools, districts and supervisory unions and their governance structures;
    - listings of Vermont educators by employing organization and place of service and position type;
    - current and historical financial information (Stat Report, Budget, ADM, Enrollment, etc.);
    - work with senior DBA to ensure appropriate access to data.

- Assigned to migration of Assessment Graphing Site from SQL Server to Oracle; I ensured the appropriate table structures were in place, along with any indexes, constraints and keys, then loaded all data into tables for testing before data was migrated to production.
- Also responsible for assisting developers.
- Implemented and manage Oracle Label Security.

CDI Managed Information Services, Essex Junction, VT. 1997 – 2003

Senior Computer Programmer/Analyst II
Under contract at I.B.M. in the Facilities and Environmental Services departments maintaining and developing programs for applications in the MVS and VM arenas, also supporting LAN-based applications.
Responsible for maintaining all facilities and many Environmental Services applications.
Provide support for some Lotus Notes – based applications, including maintaining and adding private views and agents (both manual and scheduled).
Assist end users with queries and reports via QMF, Crystal Reports and Oracle SQL+.
Monitor Batch processing for failures and fix as required.
Maintain internet web page for Standards documentation and some intranet data.
Converted all files to HTML from Lotus WordPro and provided hyperlinks between documents in addition to AutoCAD DWF Files.

Vermont Federal Bank, Williston, VT. 1994 – 1997

Computer Operations Supervisor
Responsible for all facets of datacenter operations, including scheduling of system halt/loads, scheduling weekend coverage, production control, quality control, automated processing and the evaluation of new software and hardware.

Responsible for three full-time operations specialist, including training, hiring and firing, and supervision of temporary employees.

Vermont Department Of Taxes, Montpelier, VT. 1993 – 1994

Automated Systems Specialist A

Vermont Federal Bank, Williston, VT. 1993

Computer Operations Specialist

NESTLE Foods Corporation, Purchase, NY. 1984 - 1992

Programmer 1991 - 1992

Lead Operations Technician 1989 - 1991

Third Shift Supervisor 1984 - 1989

Computer Sciences Corporation, White Plains, NY. 1979 - 1984

Lead Operator Second Shift 1981 - 1984

Education

Iona College, New Rochelle, NY
4+ years part time towards pursuit of a Bachelor's Degree in Computer Information Systems

- Computer-based training classes in HTML, DHTML, Lotus Notes Programming. Master of Science, Biostatistics May 1998
- *Oracle Backup and Recovery training provided by Knowledgewave*
- *Maintaining SQL Server 2005 databases provided by Knowledgewave*

Computer Skills

Microsoft Access, Microsoft Excel, Microsoft Visual Studio, Microsoft SQL Server Management Studio, ISPF, DB2, QMF and SQL, COBOL, PL/I, and REXX. All Lotus Smartsuite products, Crystal Reports V6, DB/2 Client Application Enabler, Oracle (Enterprise Manager, Data Manager, Policy Manager and SQL+).

Michael E. Bailey

Professional Experience

Vermont Department of Education, Montpelier, VT 2004 – Present

Business Analyst
Primary responsibilities include collection, analysis and reporting of all data related provision of Special Education services to Vermont students ages 3 to 21. This includes writing the Annual Performance Report to the Office of Special Education Programs of the U.S. Department of Education, coordination with other divisions within department to obtain information, and contract management of vendors assisting with data collection.

Data & Reporting Coordinator
Primary responsibilities include collecting and reporting data, primarily relating to Special Education (Child Count, Personnel, Discipline, Dispute Resolution). This work involves developing specifications for data collections, providing training and documentation to the field. Other duties include consulting with Special Ed Administrators, analyzing financial data, reviewing budget proposals, and responding to public information requests. Prior duties: accumulating data from various sources within the department for submission to US Department of Education's EDEN (Electronic Data Exchange Network) system. Work on Education Data Warehouse model , then preparing student data extracts.

Business Analyst (6 month temporary assignment)
Performed analysis of the requirements for several databases utilized by the Student Support Team. Determined statutory and regulatory requirements, then met with database owners and/or users to determine whether requirements were satisfied. Documented existing databases, made simple repairs where possible, and recommended additional improvements. I also managed the IT end Child Count data collection, which involved interfacing with data owners and with database developers. Also handled calls from the field during the collection period.

Triad Temporary Services, Williston, VT 2004

Temporary Work in Vermont Department of Education
Data entry, filing, and other work as assigned.

Mekkelsen RV, East Montpelier, VT 2002 – 2004
Service Manager
Managed 4 full time technicians, Warranty Clerk and additional seasonal employees. Responsible for scheduling technicians and facilities, budgeting, customer relationships, supplier relationships. Produced first profitable year in 5 years, as reported by industry group.

IBM, Essex Junction, VT
Engineering Manager 1996 – 2002
Managed team of 12 to 20 engineers and technicians in the Manufacturing Engineering organization. Management responsibilities included career development and coaching of

employees, staffing the department to meet objectives, performance planning/measurement, work practice development and salary administration. Technical responsibilities included device yield improvement, process improvement, increasing process capacity, documenting procedures and achieving manufacturing commitments to customers.

- Recruited 2 successful engineers for department as part of the Michigan Technological University campus recruiting team. Established pipeline of qualified candidates for Co-op and Intern positions.
- Increased capacity and capability of Lithography area by managing the process of specifying, purchasing, installing and qualifying 20 high-end Steppers and Scanners. This enabled IBM to manufacture its advanced technology products.
- Increased output of the Etch area by 25% by improving product deployment on the existing equipment. Accomplished with no capital investment, and reduced product cycle time in the area by 50%.
- Managed process of changing manufacturing process for newest technology, getting new processes qualified quickly, with excellent device yield and reliability results.
- Member of design team for engineering data analysis tools.

Manufacturing/Maintenance Manager 1994 – 1996

Managed team of 24 to 40 Production Operators and Equipment Maintenance technicians. Management responsibilities included career development/coaching of employees, staffing/training of maintenance organization to achieve business objectives, performance planning/measurement, work practice improvement and salary administration. Technical responsibilities included achieving production requirements to meet customer shipments, achieving equipment availability targets, developing budgets and developing and documenting procedures.

- Recruited and trained 60 technicians for the Maintenance organization, enabling IBM to eliminate a $2.5M annual Service Contract with no negative impact on equipment performance.
- Developed budgets for the Maintenance area and drove efforts to stay within funded levels.
- Met all production output and cycle time measurements for the area managed.

Engineering Technician 1981 - 1994

Developed and qualified manufacturing processes, qualified equipment, developed/documented procedures for Manufacturing/Maintenance and trained Manufacturing/Maintenance/Engineering personnel.

- Developed and qualified process which increased yield on product by 5%.
- Developed and documented procedures which improved defect performance on product by 50% with no increase in service cost.

Education

Trinity College, Burlington, VT

- Business Management major
- Coursework: Management, Business Law, Communications, Business Ethics, Accounting (2 semesters), Computer Applications, Organizational Theory, Implementing Organizational Change, Human Resource Management

University of Vermont, Burlington, VT

- Biological Sciences major
- Coursework: Chemistry, Biology, Calculus, Statistics

Courses and Seminars

IBM Management Development courses, Industrial Relations, Project Management certification series, Woodstock Institute of Negotiations. Many internal courses (Statistics, Statistical Process Control, computer applications, etc.).

Special Training

Intermediate EMT (IV Technician), CPR Instructor and Instructor-Trainer, Police Officer training.

Patents

2 US Patents 1 Japanese Patent

Awards

Multiple IBM awards, including 2 General Manager's Teamwork Awards.

Computer Skills

HTML Programming; Microsoft Office (including Access); Lotus SmartSuite (1-2-3, WordPro, Freelance); Lotus Notes. SPSS and SAS.

Stacey Murdock
Data Administration Director
Vermont Department of Education
Montpelier, Vermont

Qualifications:

- More than 20 years of experience in all aspects of research including information acquisition, research design, data collection, statistical analysis, and written, oral, and graphical presentation of research results.
- Direct supervision of Vermont Department of Education staff members responsible for the data collection and reporting of core education data. These data include student, educator, discipline, and school finance data.
- Experienced in fulfilling the legislated responsibility or program mandate of ensuring data quality, confidentiality, completeness, and integrity through management of the data creation and maintenance.
- Project lead for two National Center for Education Statistics Cooperative System Grants (2004, 2007)

Professional Experience:

Vermont Department of Education
Data Administration Director: September 2003 – Present
Supervise statistical analysts, business analysts and helpdesk staff, Vermont liaison with National Center for Education Statistics Forum, Coordinate the work of data analysts department-wide to ensure that the data management activities are consistent with the strategic and operational goals of the department

School Finance Analyst: July 2000-September 2003
Supervise administrative assistant and analyst, Liaison between School Finance and Information Technology teams, Collect School Finance Data, Statistical analysis of education data, Preparation of annual reports, Database development

Senior Researcher and Statistical Analyst: August 1999-July 2000
Collect School Finance Data, Statistical analysis of education data, Preparation of annual reports, Database development

University of Vermont 1994-1998
Assistant Professor
Taught undergraduate and graduate courses, Developed independent research program, Grant preparation and submission, Mentored individual members of research team, Coordinated members of research team, Developed and evaluated new curricular program for undergraduates, Provided student advising, Served as both chair and member of various committees and task forces

Education:

Doctor of Philosophy, Experimental Psychology, 1994
University of California, Los Angeles

Bachelor of Arts, Psychology with Biology Minor, 1989
University of Texas, Arlington

Achievements:

Graduate of the Vermont Public Manager Program, 2007
Completion of Business Requirements Management Workshop, 2007
University Committee on Research and Scholarship Award, UVM, 1995
Joseph A. Gingerelli, Distinguished Dissertation Award, UCLA, 1994
National Research Service Award, National Institute of Mental Health, 1992-1994
University Fellowship for Graduate Study, UCLA, 1989

Lila Denton
Business Analyst/EDFacts Coordinator
Vermont Department of Education
Montpelier, Vermont

Education

Master of Arts, Economics, 1990 – areas of emphasis: Econometrics, Economic Theory, & History of Economic Thought
University of Colorado, Boulder

Bachelor of Arts, Economics 1978
University of Colorado, Denver

Relative Graduate Level Statistics Course Work

Business Statistics	Into to Econometrics
Econometrics	Seminar-Econometrics
Seminar-Math/Econometrics	

Qualifications

Nearly 20 years of analytical experience in statistical analysis, data management, data analysis, data collection and written and graphical representation of results.

Work Experience

January 2007 – Present Vermont Department of Education
Business Analyst/EDFacts Coordinator

Project Leadership: Develop and meet the project plan for EDFacts submission due dates. Liaise with department managers, advisory committees, technical staff, and others to ensure that the EDFacts data are reported in a timely and accurate fashion. Provide regular reports to IT management on progress in meeting EDFacts reporting requirement.

Business Analysis: Liaise with department staff to develop an understanding of their data requirements for federal requirements. Review EDFacts file specifications to either create files from department data or assist other DOE staff members in understanding how to create the file. Ensure that data submission meet the specifications and requirements for EDFacts. Document how each file is created such that, annually, the files can be recreated.

Data Analysis: Compile data owned by IT for EDFacts reporting. Create files using data owned by department divisions without existing analytical capacity. Prepare a variety of written reports and materials to support analysis. Analyze data from program areas for accuracy.

4/98 – 9/06 Vermont Center for Justice Research

Research Analyst: Data management, data collection and statistical analysis for research projects in the areas of criminal justice and highway research. Examples of projects include: data management for Department of Public Safety's new multirelational on-line database – Vermont Crime on Line; data compilation and analysis for a DUI Source Book for Department of Public Safety; and a crash resource book for Governor's

Highway Safety Program.

11/87 – 6/88 Colorado Department of Labor & Employment

Statistical Analyst: Statistical analysis of data on employment and wages for the Colorado Department of Labor and Employment, edit and correction of data to be used for national GNP figures and preparation of economic comments for data changes to accompany federal reports.

9/84 – 5/87 University of Colorado, Boulder

Teaching Assistant: Prepared reviews, problem sets and quizzes for weekly recitation for Principles of Microeconomics and Principles of Macroeconomics; assisted professor in preparing, administering and grading exams.

12/79 – 8/84 Mountain Bell

Economic Analyst: Development of new cost model for private line services – project involved research of old methodology and extensive coordination with engineers and computers programmers to develop method for compiling and generating cost. Directed and coordinated investment studies for AT&T; studies were of approximately one year duration and required developing inputs with assistance from engineers, as well as compiling data and summarizing results.

Awards

U.S. Department of Education 2008 Award for outstanding development and coordination of EDFacts and for ensuring the timely merger of CCD and EDFacts data.

Edfacts 2008 Award for Excellence: Complete SY 2006-2007 EDFacts Membership, Accountability and Performance Data

EDFacts 2009 Award for Excellence: State Profiles – Complete School Year 2007-2008 EDFacts Data Submissions

EDFacts 2009 Award for Excellence: Maximum EDFacts Prepopulation Consolidated Sate Performance Report for School Year 2007-2008

Golden Award 2010 Outstanding performance in timely and complete reporting of Common Core of Data for School Year 2009-2010

Overview of Qualifications and Key Strengths

12+ years of interactive project management experience with an emphasis in children's educational content. Having recently completed MA in information and learning technologies, hoping to leverage current position to help facilitate learning through the integration of technology in the 21st century classroom.

Digital and Education Experience

Education Technology Project Manager, *VT Dept of Education, Montpelier, VT 8/11-Present*

- Overseeing and managing statewide software implementation initiatives. Projects include an instructional resource collaborative site that that supports educators in the creation and dissemination of Pre-K-12 instructional resources and an online licensing system designed to improve and automate the process for educators and related professionals applying for initial licensure and relicensure through the Educator Quality department.
- Ensuring projects are properly designed to meet the business purposes of the agency and project sponsors. Working collaboratively with education and IT directors and staff to conduct needs assessments and risk analysis for the implementing education technology solutions.
- Responsible for the project management of Vermont's application for a federal waiver to the Elementary and Secondary Education Act including proposal construction and facilitation of project Design Team and stakeholder involvement.

Senior Project Manager*, Weekly Reader Corporation, White Plains, NY 2/09-7/11*

- Developing a digital product strategy for WR Connect, an award winning, reading comprehension program for grades K-6 that features interactive lessons and instruction to over 300 school districts and elementary schools. Collaborating with Editorial, Sales and Marketing teams to establish subscriber driven content plans including the incorporation of assessment and reporting, community, social media, and other enhanced teacher tools. Working with educators and administrators to identify their needs for product expansion and modification.
- Establishing necessary budgets and schedules for project development. Conducting RFP processes, and identifying resources and vendors for new initiatives. Ensuring that all budgeted resources execute program deliverables within contracted budget parameters.
- Along with key WRC executives, contributing to a vision of the digital future of Weekly Reader products, including online and alternative platforms such as mobile and tablet applications. Regularly scanning market for new concepts, competitive analysis, and emerging trends relevant to the segment.
- Partnering with offshore development team. Representing the WRC business in prioritizing forecasted projects and other work in the pipeline, addressing problems and obstacles as they arise, and offer potential strategy and solutions where needed.

- Led the relaunch of Weeklyreader.com, an online destination for educators offering subscribers interactive tools and resources for Pre K-12 students.

***Project Management Consultant**, Various Corporations* *1/02- 2/09*

- Online marketing manager with the *Reader's Digest* Digital Business Group with an emphasis on consumer marketing and magazine circulation for "Reader's Digest", and "Every Day with Rachael Ray".
- Project manager for *Arts and Entertainment Television Network* (A&E) Interactive Group. Responsible for web endeavors for A&E's subsidiary networks, Biography Channel and The History Channel, including projects designed for use in classroom environments.
- Online marketing manager for *Scholastic, Inc.* Online Selling Group representing several educational business units including Teaching Resources and Classroom Books.
- Developed content strategy for "Thomas the Tank Engine" premium club community for *Britt Allcroft*. Documentation included plans for exclusive content, merchandise, and other unique interactive benefits of paid membership. Provided comprehensive analysis of online clubs with regard to site experiences, content offerings and retail areas.

Teacher's Aide and Substitute Teacher, Connecticut Public School System 9/02- 02/06

- Worked with elementary school students in mainstream and resource environments.
- Identified successful methods to assist educational process based on individual personalities and abilities.
- Met regularly with parents and teachers to discuss child's progress and outline effective strategies.
- Utilized interactive software to enhance learning process.
- Worked with autistic pre-school children focusing on verbal, visual and physical cues to engage and stimulate interaction.

Senior Producer**, HBO Family, New York, NY** **6/00 – 12/01**

- Developed HBO Magnet.com, an experimental internet portal that delivered ground-breaking interactivity and entertainment for the tween segment of HBO Family's audience. Created an environment that encouraged learning, creativity, fun, and imagination.
- Acted as Senior Producer of Deadwood Mysteries, a web-original mystery series for kids that pushed the boundaries of internet content with its unique approach to online story-telling.
- Worked directly with show producers on development of original web concepts to enhance audience experience.
- Oversaw million-dollar budget for web initiatives. Supervised internal and external production staff.

Account Director, Xceed Interactive, New York, NY (formerly Reset, Inc.) 7/99-5/00

- Acted as lead strategist for PBS, HBO, HBO Family, Spacehab and Britt Allcroft.
- Fostered a partnership with HBO that resulted in a vast portfolio of projects for HBO's Family, Comedy, Series and Films divisions. Programs included Dennis Miller Live, The Chris Rock Show, Sex and the City, Oz, RKO281, Spawn, and Introducing Dorothy Dandridge.
- Led new business efforts with entertainment clients. Responsible for presentations, written proposals and other documentation.
- Supervised internal team of creative, technology, marketing staff through lifeline of project, ensuring client vision and overall satisfaction.

Project Manager, Reset, Inc, New York, NY 3/98-6/99

- Acted as senior production manager on HBO properties. Responsible for project documentation including site plan, status reporting, scheduling, resource scheduling and actualization.
- Created HBO4Kids.com, an extension of the HBO Family channel that provided exclusive online entertainment for kids aged 6-12.
- Conceived and produced web original "Camp HBO" virtual summer camp.
- Designed web original content for television series including Babar, Teletubbies, Pippi Longstocking, Dear America, Crashbox!, A Little Curious and Paddington Bear.

Education

- University of Colorado, School of Education and Human Development, Denver, CO. Master of Arts in Information and Learning Technologies, 2010.
- Denison University, Granville, OH. Bachelor of Arts in English, 1992.

VIDA

Michael L. Hock

Professional Experience

Vermont Department of Education, Montpelier, VT 2004 – Present
Director of Educational Assessment
Responsible for the overall supervision and management of Vermont's statewide assessment program, including all aspects of vendor contracting, test design, development, administration, reporting and interpretation . Duties also include consultation and collaboration on a variety of related tasks and projects including policy development, implementation of state and federal legislation and reporting requirements, research and professional development.

Northeast Regional Resource Center, Williston, VT 2001-2004
Assessment Consultant
Provided a wide variety of consultative services to state departments of education in New England, New York and New Jersey, with a primary focus on participation of students with special assessment needs in statewide educational assessments. Research associate with the National Center on Learning Disabilities and representatives from the other regional resource centers on the National Study of Response to Intervention.

Green Mountain Psycho-Educational Services, Richmond, VT 1998-2001
Associate
With a focus on diagnosis of individual learning problems, provided student evaluations, professional development, university coursework and program evaluations on a regional and national level

University of Vermont, Burlington, VT
Research Associate Professor 1988-1998
Taught masters level courses on assessment and diagnosis of learning problems, participated in a variety of research studies, supervised graduate internships, consulted regionally and nationally on an array of assessment issues related to students with disabilities.

North Country Educational Services, Gorham, NH 1984-1988
Educational Diagnostician
Evaluated individual students for special education eligibility, programming and intervention.

Public Schools in New Hampshire and Pennsylvania 1971-1984
Special Educator
Taught in a variety of educational settings in public schools, including classrooms for students with severe cognitive deficits, students with learning disabilities, and students with emotional and behavioral issues.

Education

University of New Hampshire, Durham, NH
Certificate of Advanced Graduate Study in Special Education: Resource and Consulting Teacher

Keene State College, Keene, NH
Masters of Education in Special Education

University of Pennsylvania at Bloomsburg, Bloomsburg, PA
Bachelors of Education in Special Education

Additional Graduate Level Coursework

University of Maryland, College Park, MD - Assessment Development and Psychometrics
Lehigh University, Bethlehem, PA – Psycho-Educational Studies
University of Vermont, Burlington, VT – Educational Leadership
University of Massachusetts, Boston, MA – Psycho-Educational Diagnostics
Pennsylvania State University, State College, PA – Curriculum and Instruction

Sarah A. Lindberg

PROFESSIONAL EXPERIENCE

State of Vermont, Montpelier, VT. Education Statistician,
June 2010 – present

- Collect, maintain, and analyze student-level assessment data
- Collaborate with internal and external partners in research
- Prepare departmental, state, and federal reports
- Develop new procedures and tools for disseminating data to teachers in the field

University of Vermont Psychiatry Dept., Burlington, VT. Study Coordinator,
August 2004 – June 2010

- Coordinated recruitment, tracking, and involvement of participants in psychiatric research projects
- Managed data collection and entry; collaborated on subsequent analyses
- Co-authored journal articles, grants, and project proposals
- Trained, supervised, and coordinated 2-5 employees and interns

Violence Intervention & Prevention Program, Burlington, VT. Facilitator,
July 2005 - June 2010

- Co-facilitated court-mandated classes for groups of men who had physically abused a female partner
- Implemented cognitive behavioral curriculum
- Provided written documentation and communicated concerns with case management staff

City of Lakes AmeriCorps, Minneapolis, MN. AmeriCorps Leader,
September 2002-July 2004

- Coordinated leadership development group for 15 AmeriCorps members serving throughout Minnesota
- Developed statewide events attended by 100-200 AmeriCorps members and staff
- Coordinated and facilitated monthly discussions focusing on race and ethnicity
- Promoted teamwork among 42 City of Lakes members placed at 9 Minneapolis Public School sites

EDUCATION

University of Vermont, Burlington, VT. Master of Science, Statistics, May 2010.

University of Wisconsin - Madison, Madison, WI. Bachelor of Arts, Psychology and Legal Studies, May 2002. Dean's List Fall 1998-Spring 2002; Graduate with Distinction.

PUBLICATIONS

Guth, S.; Lindberg, S.A.; Badger, G.J.; Thomas, C.S.; Rose, G.L.; and Helzer, J.E. (2008). Brief intervention in alcohol-dependent versus nondependent individuals. *Journal of Studies on Alcohol and Drugs*, *69*(2), 243-250.

Helzer, J.E.; Rose, G.L.; Badger, G.J.; Searles, J.S.; Thomas, C.S.; Lindberg, S.A.; and Guth, S. (2008). Using interactive voice response to enhance brief alcohol intervention in primary care settings. *Journal of Studies on Alcohol and Drugs*, *69*(2), 251-258.

Hughes, J.R.; Helzer, J.E.; and Lindberg, S.A. (2006). Prevalence of DSM/ICD-defined nicotine dependence. *Drug and Alcohol Dependence*, *85*(2), 91-102.

Herman W. Meyers
College of Education and Social Services
University of Vermont
Burlington, VT 05405

EDUCATIONAL HISTORY

1971	Ph.D. Higher Education Administration, University of Connecticut
1968	M.A. Counseling and Student Personnel Services, University of Connecticut
1965	B.A. Social Studies, Montclair State University

AWARDS

2006	Friend of the Family Award, Vermont Association of Consumer Science Educators
2006	Letter of Appreciation, The National Academies
2004	Recognition of Service, Vermont State Board of Education
2004	Merit Award, New England Common Assessment Directors

PROFESSIONAL EXPERIENCE

2009	Founding Director, The James M. Jeffords Center for Policy Research
2000 -2004	Deputy Commissioner, Vermont State Department of Education Responsible for Assessment and Accountability
1999	Visiting Scholar, Oxford University
1992-2000	Chair, Department of Education, College of Education and Social Services, University of Vermont, Burlington, Vermont
1971 -present	Associate Professor, Department of Education, Educational Leadership Program, College of Education and Social Services, University of Vermont, Burlington, Vermont
1984 –summer	Visiting Scholar, University of Oulu, Oulu, Finland
1978	Visiting Scholar, Center for Educational Research at Stanford, Stanford University, Palo Alto, California
1973-1979	Director, Vermont Teacher Corps, College of Education and Social Services, University of Vermont, Burlington, Vermont
1971-1973	Director, Laboratory Experiences and Career Planning, College of Education and Social Services, University of Vermont, Burlington, Vermont
1971-1975	Assistant Professor, Department of Education, College of Education and Social Services, University of Vermont, Burlington, Vermont
1968-1971	Assistant Director, Office of Professional Education and Instructor, School of Education, University of Connecticut, Storrs, Connecticut
1967	Graduate Assistant, Office of Professional Education, School of Education, University of Connecticut, Storrs, Connecticut
1966-1967	Teacher, Town of East Hampton, Connecticut
1965-1966	Teacher, Town of Caldwell, New Jersey

PROFESSIONAL SERVICE

National:

2004	Invited panelist , The National Academies, Division of Behavioral Sciences and Education, Committee on Test Design for K-12 Science Achievement
2002-2004	Deputies Leadership Commission, Council of Chief State School Officers
2004	Invited presentation, Vermont's Science Assessment. National Academies: National Research Council. Division of Behavioral and Social Sciences. Working group of assessment directors for the Committee on Test Design for K-12 Science Achievement. Washington, DC.
2004	Discussant. Validating Vermont's Alternate Assessment System. Council of Chief State School Officers Annual Meeting on Large Scale Assessment. Boston, MA.
2003	Invited presentation. Lessons from Nebraska, Maine, and Vermont: Building local assessment capacity in school districts. Council of Chief State School Officers Annual Meeting on Large Scale Assessment. San Antonio, TX.
2002	Invited presentation, Developing Capacity for Local Assessment in Vermont Council of Chief State School Officers Annual Meeting on Large Scale Assessment.
2001	Invited presentation. Rules for the Accountability System Based on Student Performance. Council of Chief State School Officers. New England Deputy/ Associate Commissioner of Education Meeting. September 20, 2001
1988	The Effective Schools Movement in Vermont, United States House of Representatives Committee on Education and Labor, Paper presented at the Seminar on Effective Schools, Washington, DC: U.S. Congress, September 14.
1986	Invited Testimony, United States House of Representatives Committee on Education and Labor: Effective Schools, The Congressional Record, March 4.

PUBLICATIONS

Books: Meyers, H. & Joyce, B. (Eds) Inservice of youth. Washington, DC: Association of Teacher Educators, 1979.

Monographs: Meyers, H. & Shiman, D. FAPE: A monograph on free and appropriate education for all. Burlington, VT: University of Vermont, 1977.

Meyers, H. The search for entente: A model for collaboration in three acts. Washington, DC: Teacher Corps Management, January, 1979.

Meyers, H., Corrigan, D. & Smith, W. Remarks: AACTE, 1976. Washington, DC: National Teacher Corps, January, 1976.

Articles: Gross, K., Harris, D. & Meyers, H. (in press) "Serious mathematics for K-6 teachers leads to higher student achievement." *Science Magazine*.

Meyers, H. "Leading to Change with the Change Toolkit." *Education Leadership Newsletter*. Council of Chief State School Officers. One Massachusetts Avenue, NW ° Suite 700 . Washington, DC 20001-1431. September, 2005.*

Meyers, H. "School quality in Vermont and the effective schools process: Meeting the challenge of No Child Left Behind." *Journal of Effective Schools.* 2.2. 61-66. 2003

Meyers, H. & Smith, S. **"**Coming Home: Mentoring new teachers. A school/university partnership to support the development of teachers from diverse ethnic backgrounds." *Peabody Journal of Education.* Special Issue, 74.2. 75-89, 1999.*

Villa, R. A., Thousand, J. S., Meyers, H., & Nevin, A. "Teacher and administrator perceptions of heterogeneous education." *Exceptional Children,* 63(1), 29-45. 1996.*

Meyers, H.W. "Can Middle Level Education Help Kids to Stay in School?" *VAMLE Journal,* September, 1991

Paper Presentations:

Meyers, H. & Harris, D. "The Vermont Mathematics Initiative Student Achievement from Grade 4 to Grade 10 2000 Through 2006" Paper presented at the Annual Meeting of the American Educational Research Association. New York, NY, March, 2008.

Meyers, H. "The Vermont Mathematics Initiative: Student Achievement from Grade 4 to Grade 10." Paper presented at the Annual Meeting of the American Educational Research Association San Francisco, CA, April, 2006

Morgan, A.M., Killeen, K. & Meyers, H. "Mobile Students: A Challenge for Accountability." Paper presented at the Annual Meeting of the American Educational Research Association San Francisco, CA, April, 2006

Meyers, H. & Harris, D. "Evaluating the Vermont Mathematics Initiative in a Value Added Context." Paper presented at the Annual Meeting of the American Educational Research Association, Montreal, PQ, 2005.

Meyers, H. "The Full Range of Assessments Needed Now: Local Assessments can Balance NCLBA Mandates. Paper presented at the Annual Meeting of the American Educational Research Association, Montreal, PQ, 2005.

Killeen, K., Meyers, H., Crow, G. & Hasazi, S. "Social Justice Developments in Leadership Training Programs: Findings From a National Survey of Leadership Faculty." Paper presented at the Annual Meeting of the American Educational Research Association, Montreal, PQ, 2005.

DeStefano, L., Hasazi, S., Hock, M. & Meyers, H.W. "Validating Alternate Assessment Systems: Methods and Results fro Vermont's Longitudinal Validation Study." Paper presented at the Annual Meeting of the American Educational Research Association, Montreal, PQ, 2005.

Alphabetical List of Acronyms Used in Application

CEDS: Common Education Data Standards
EDW: Education Data Warehouse
ETL: Extract, Transform and Load
FERPA: Family Educational Rights and Privacy Act
FTE: Full Time Equivalent
HR: Human Resources
IT: Information Technology
I-Team: Implementation Team
K-12: Kindergarten through 12th Grade
NCES: National Center for Education Statistics
NEDM: National Education Data Model
ODS: Operational Data Store
P-20W: Prekindergarten through Grade 20 and/or Workforce
PK-16 Council: Prekindergarten through Grade 16 Council
RttT: Race to the Top
SD: Supervisory District
SECT: Student Educator Course Transcript
SFSF: State Fiscal Stabilization Fund
SIF: Schools Interoperability Framework
SIS: Student Information System
SLDS/LDS: Statewide Longitudinal Data System/Longitudinal Data System
SPED: Special Education
SQL: Structured Query Language
SU: Supervisory Union
VADR Project: Vermont Automated Data Reporting Project
VDC: Vermont Data Consortium
VNEA: Vermont National Educators Association
VPA: Vermont Principals Association
VR: Vertical Reporting
VSA: Vermont Superintendents Association
VSBA: Vermont School Boards Association
VT DOE: Vermont Department of Education
XML: Extensible Markup Language
ZIS: Zone Integration Server

ED 524 SECTION C

VADR PROJECT BUDGET - FEDERAL FUNDS
(Supporting ED 524 SECTION A)

Deliverable #1: All K-12 Schools Participating in Automated Vertical Data Collection Process by May, 2015.		
	1.02	1.02

		Salary/ Contractor Annual Rate/ Unit Cost	FTE %	Year 1	Year 2	Year 3	3-Year Total	Additional Notes
1	**Personnel**							
								No grant funded personnel will be utilized.
	Total Personnel			-	-	-	0	
2	**Fringe Benefits**							
								No fringe benefits will be paid for by this grant.
	Total Fringe Benefits			-	-	-	0	
3	**Travel**							
	Travel for 2 state staff to attend SIF Annual Conference			4,000	4,000	4,000	12,000	Estimated at $2000/person/year for airfare, hotel, meals, ground transport
	Total Travel			4,000	4,000	4,000	12,000	
4	**Equipment**							
								No equipment will be purchased directly. All systems developed by this grant will be vendor-hosted. Equipment costs rolled into quoted vendor hosting fees.
	Total Equipment			-	-	-	0	
5	**Supplies**							
								No supplies will be paid for by this grant.
	Total Supplies			-	-	-	0	

6	**Contractual**						
	Technical Lead/Project Manager	234,000	20%	46,800	46,800	46,800	140,400	Contractor Fees estimated at 240 days x 7.5 hours per day x $130 per hour. Split evenly across Deliverables 1, 2, 3, 5, & 6
	Change Management Specialist	86,400	50%	43,200	43,200	43,200	129,600	Contractor Fees estimated at 50% Total FTE - 240 days x 3 hours per day x $120 per hour. Split evenly across Deliverables 1 & 2
	Independent Review of Tech Lead/PM Contract	12,000		12,000	0	0	12,000	Required because overall value of 3 year contract surpasses $500,000.
	Independent Review of Vertical Reporting Contract	12,000		12,000	0	0	12,000	Required for contracts over $500,000.
	Vertical Reporting (VR) Contract - Perpetual License on vendor solution and Zone Integration Server	420,000		420,000	0	0	420,000	Perpetual license is paid for upfront.
	VR Contract - Project Management Services	60,000		20,000	20,000	20,000	60,000	Split evenly across years.
	VR Contract - ODS Adapter Development	40,000		40,000	0	0	40,000	Will be established in Year 1
	VR Contract - Data collection plan definition/design	150,000		100,000	50,000	0	150,000	Expected to be completed in Year 1. 1/3 of cost will be withheld as retainage to vet system.
	VR Contract - State Implementation & Training	50,000		50,000	0	0	50,000	Will be completed in Year 1
	VR Contract - System Hosting	28,500		9,500	9,500	9,500	28,500	Vendor will procure necessary hardware and software to set up mutli-zoned Zone Integration Server.
	VR Contract - District SIF Implementation & Training	252,000		80,000	86,000	86,000	252,000	Estimated at $4000/district. (20 year 1; Remaining 43 SUs and Tech Districts in year 2 and 3)
	VR Contract Total			719,500	165,500	115,500	1,000,500	
	Total Contractual			833,500	255,500	205,500	1,294,500	
7	**Construction**							
								No Construction costs are included in this grant.
	Total Construction			-	-	-	0	
8	**Other**							
	District grants to pay for SIF/file-extract district system customizations for VR-driven collections			100,000	100,000	100,000	300,000	Exempt from Indirect Costs
	Statewide SIF Association Membership			15,000	15,000	15,000	45,000	Quoted by SIFA at $15000/year
	Total Other			115,000	115,000	115,000	345,000	
9	***Total Direct Costs (lines 1-8)***			**$ 952,500**	**$ 374,500**	**$ 324,500**	**$ 1,651,500**	
10	**Indirect Costs (18%)**			**21,240**	**16,920**	**16,920**	**55,080**	
11	**Training Stipends**							
12	***Total Costs (lines 9-11)***			**$ 973,740**	**$ 391,420**	**$ 341,420**	**$ 1,706,580**	

NOTES

Totals may not add due to rounding

18.00% Indirect Cost rate (percentage of Total Direct Costs, including overall contract amounts up to $25,000, but excluding sub-granted funds)

ED 524 SECTION C
VADR PROJECT BUDGET - FEDERAL FUNDS
(Supporting ED 524 SECTION A)

			Deliverable #2: Develop State-level Operational Data Store.				
				1.02	1.02		
		Salary/ Contractor Annual Rate/ Unit Cost	**FTE %**	**Year 1**	**Year 2**	**Year 3**	**3-Year Total**	**Additional Notes**
1	**Personnel**							
								No grant funded personnel will be utilized.
	Total Personnel			-	-	-	0	
2	**Fringe Benefits**							
								No fringe benefits will be paid for by this grant.
	Total Fringe Benefits			-	-	-	0	
3	**Travel**							
	Travel for 2 state staff to attend SLDS Meetings in Washington, DC			4,000	4,000	4,000	12,000	Estimated at $2000/person/year for airfare, hotel, meals, ground transport
	Total Travel			4,000	4,000	4,000	12,000	
4	**Equipment**							
								No equipment will be purchased directly. All systems developed by this grant will be vendor-hosted.
	Total Equipment			-	-	-	0	
5	**Supplies**							
								No supplies will be paid for by this grant.
	Total Supplies			-	-	-	0	

6	**Contractual**						
	Technical Lead/Project Manager	234,000	20%	46,800	46,800	46,800	140,400	Contractor Fees estimated at 240 days x 7.5 hours per day x $130 per hour. Split evenly across Deliverables 1, 2, 3, 5, & 6
	Change Management Specialist	86,400	50%	43,200	43,200	43,200	129,600	Contractor Fees estimated at 50% Total FTE - 240 days x 3 hours per day x $120 per hour. Split evenly across Deliverables 1 & 2
	Independent Review of ODS Contract	12,000		12,000	0	0	12,000	Required for contracts over $500,000.
	ODS Contract - Operational Data Store	700,000		400,000	200,000	100,000	700,000	Implementation costs are split over years as initial implementation will have to be modified to account for other VADR Deliverables.
	ODS Contract - Data Management & Training	200,000		100,000	50,000	50,000	200,000	Coordination of SIF/non-SIF data sources. Data collections to fill gap of elements not covered by VR. District ownership training on ETL/Data management console.
	ODS Contract - ODS Hosting	90,000		30,000	30,000	30,000	90,000	Vendor will procure, setup, manage and host multiple database and application servers that will make up this environment.
	ODS Contract Total for Deliv. 2			530,000	280,000	180,000	990,000	
	Total Contractual			632,000	370,000	270,000	1,272,000	
7	**Construction**						
								No Construction costs are included in this grant.
	Total Construction			-	-	-	0	
8	**Other**						
	District grants to pay for SIF/file-extract district system customizations for ODS-driven collections			100,000	100,000	100,000	300,000	Exempt from Indirect Costs.
	Total Other			100,000	100,000	100,000	300,000	
9	***Total Direct Costs (lines 1-8)***			**$736,000**	**$474,000**	**$374,000**	**$1,584,000**	
10	**Indirect Costs (18%)**			**7,380**	**5,220**	**5,220**	**17,820**	
11	**Training Stipends**							
12	***Total Costs (lines 9-11)***			**$743,380**	**$479,220**	**$379,220**	**$1,601,820**	

NOTES

Totals may not add due to rounding

18.00% Indirect Cost rate (percentage of Total Direct Costs, including overall contract amounts up to $25,000 where contracts did not reach $25,000 limit in other deliverable, but excluding sub-granted funds)

ED 524 SECTION C

VADR PROJECT BUDGET - FEDERAL FUNDS
(Supporting ED 524 SECTION A)

Deliverable #3: All VT DOE Data Analysis Tool Data Loads Automated by May, 2015.		
	1.02	1.02

		Salary/ Contractor Annual Rate/ Unit Cost	FTE %	Year 1	Year 2	Year 3	3-Year Total	Additional Notes
1	**Personnel**							
								No grant funded personnel will be utilized.
	Total Personnel			-	-	-	0	
2	**Fringe Benefits**							
								No fringe benefits will be paid for by this grant.
	Total Fringe Benefits			-	-	-	0	
3	**Travel**							
								No travel will be funded as part of this deliverable.
	Total Travel			-	-	-	0	
4	**Equipment**							
								No equipment will be purchased directly. All systems developed by this grant will be vendor-hosted.
	Total Equipment			-	-	-	0	
5	**Supplies**							
								No supplies will be paid for by this grant.
	Total Supplies			-	-	-	0	

6	**Contractual**							
	Technical Lead/Project Manager	234,000	20%	46,800	46,800	46,800	140,400	Contractor Fees estimated at 240 days x 7.5 hours per day x $130 per hour. Split evenly across Deliverables 1, 2, 3, 5, & 6
	ODS Contract - ETL process to automate data analysis tool data loads	100,000		20,000	40,000	40,000	100,000	Contract will specify exactly what EDW & data-driven reporting tool files need to be generated, and ETL process to populate EDW dashboard module from source warehouse. Cost split 20-40-40%/year because first year will likely be analyis and design and future years will complete and vet solution.
	Total Contractual			66,800	86,800	86,800	240,400	
7	**Construction**							
								No Construction costs are included in this grant.
	Total Construction			-	-	-	0	
8	**Other**							
								No other costs are attributed to this deliverable as it is a subsection of the environment created in Deliverable 2.
	Total Other			-	-	-	0	
9	***Total Direct Costs (lines 1-8)***			**$ 66,800**	**$ 86,800**	**$ 86,800**	**$ 240,400**	
10	**Indirect Costs (18%)**			**0**	**0**	**0**	**0**	
11	**Training Stipends**							
12	***Total Costs (lines 9-11)***			**$ 66,800**	**$ 86,800**	**$ 86,800**	**$ 240,400**	

NOTES

Totals may not add due to rounding

No indirects calculated because no direct costs - except for contracts already used to calculate indirects in previous deliverables - are attributed to this deliverable.

ED 524 SECTION C
VADR PROJECT BUDGET - FEDERAL FUNDS
(Supporting ED 524 SECTION A)

Deliverable #4: Establish Enhanced Training Delivery System.

				1.02	1.02		
		Salary/ Contractor Annual Rate/ Unit Cost	**FTE %**	**Year 1**	**Year 2**	**Year 3**	**3-Year Total**	**Additional Notes**
1	**Personnel**							
								No grant funded personnel will be utilized.
	Total Personnel			-	-	-	0	
2	**Fringe Benefits**							
								No fringe benefits will be paid for by this grant.
	Total Fringe Benefits			-	-	-	0	
3	**Travel**							
								No travel will be funded as part of this deliverable.
	Total Travel			-	-	-	0	
4	**Equipment**							
								No equipment will be purchased directly. All systems developed by this grant will be vendor-hosted.
	Total Equipment			-	-	-	0	
5	**Supplies**							
								No supplies will be paid for by this grant.
	Total Supplies			-	-	-	0	

6	**Contractual**						
	VDC contract to pay for VDC VADR project activities.	540,000	180,000	180,000	180,000	540,000	Level of support estimated based on FTE involvement of contracted staff in relation to existing and expected position expenses.
	Independent Review of VDC Contract	12,000	12,000	0	0	12,000	Required because overall value of 3 year contract surpasses $500,000.
	Total Contractual		192,000	180,000	180,000	552,000	
7	**Construction**						
							No Construction costs are included in this grant.
	Total Construction		-	-	-	0	
8	**Other**						
							No other costs are attributed to this deliverable.
	Total Other		-	-	-	0	
9	***Total Direct Costs (lines 1-8)***		**$ 192,000**	**$ 180,000**	**$ 180,000**	**$ 552,000**	
10	**Indirect Costs (18%)**		**6,660**	**4,500**	**4,500**	**15,660**	
11	**Training Stipends**						
12	***Total Costs (lines 9-11)***		**$ 198,660**	**$ 184,500**	**$ 184,500**	**$ 567,660**	

NOTES

Totals may not add due to rounding

18.00% Indirect Cost rate (percentage of Total Direct Costs, including overall contract amounts up to $25,000)

ED 524 SECTION C

VADR PROJECT BUDGET - FEDERAL FUNDS

(Supporting ED 524 SECTION A)

Deliverable #5: All EdFacts Submission Files Capable of Being Generated by May, 2015.

1.02 1.02

		Salary/ Contractor Annual Rate/ Unit Cost	FTE %	Year 1	Year 2	Year 3	3-Year Total	Additional Notes
1	**Personnel**							
								No grant funded personnel will be utilized.
	Total Personnel			-	-	-	0	
2	**Fringe Benefits**							
								No fringe benefits will be paid for by this grant.
	Total Fringe Benefits			-	-	-	0	
3	**Travel**							
								No travel will be funded as part of this deliverable.
	Total Travel			-	-	-	0	
4	**Equipment**							
								No equipment will be purchased directly. All systems developed by this grant will be vendor-hosted.
	Total Equipment			-	-	-	0	
5	**Supplies**							
								No supplies will be paid for by this grant.
	Total Supplies			-	-	-	0	

6	**Contractual**							
	Technical Lead/Project Manager	234,000	20%	46,800	46,800	46,800	140,400	Contractor Fees estimated at 240 days x 7.5 hours per day x $130 per hour. Split evenly across Deliverables 1, 2, 3, 5, & 6
	ODS Contract - Creation of EdFacts Data Mart & ETL process to automate generation of EdFacts Files	250,000		50,000	100,000	100,000	250,000	Cost split 20-40-40k/year because first year will likely be analyis and design and future years will complete and vet solution.
	Total Contractual			96,800	146,800	146,800	390,400	
7	**Construction**							
								No Construction costs are included in this grant.
	Total Construction			-	-	-	0	
8	**Other**							
								No other costs are attributed to this deliverable as it is a subsection of the environment created in Deliverable 2.
	Total Other			-	-	-	0	
9	***Total Direct Costs (lines 1-8)***			**$ 96,800**	**$ 146,800**	**$ 146,800**	**$ 390,400**	
10	**Indirect Costs (18%)**			**0**	**0**	**0**	**0**	
11	**Training Stipends**							
12	***Total Costs (lines 9-11)***			**$ 96,800**	**$ 146,800**	**$ 146,800**	**$ 390,400**	

NOTES

Totals may not add due to rounding

No indirects calculated because no direct costs - except for contracts already used to calculate indirects in previous deliverables - are attributed to this deliverable.

ED 524 SECTION C
VADR PROJECT BUDGET - FEDERAL FUNDS
(Supporting ED 524 SECTION A)

Deliverable #6: Develop Growth Model Reporting Tool.

				1.02	1.02		
		Salary/ Contractor Annual Rate/ Unit Cost	**FTE %**	**Year 1**	**Year 2**	**Year 3**	**3-Year Total**	**Additional Notes**
1	**Personnel**							
								No grant funded personnel will be utilized.
	Total Personnel			-	-	-	0	
2	**Fringe Benefits**							
								No fringe benefits will be paid for by this grant.
	Total Fringe Benefits			-	-	-	0	
3	**Travel**							
								No travel will be funded as part of this deliverable.
	Total Travel			-	-	-	0	
4	**Equipment**							
								No equipment will be purchased directly. All systems developed by this grant will be vendor-hosted.
	Total Equipment			-	-	-	0	
5	**Supplies**							
								No supplies will be paid for by this grant.
	Total Supplies			-	-	-	0	

6	**Contractual**							
	Technical Lead/Project Manager	234,000	20%	46,800	46,800	46,800	140,400	Contractor Fees estimated at 240 days x 7.5 hours per day x $130 per hour. Split evenly across Deliverables 1, 2, 3, 5, & 6
	ODS Contract - Creation of Growth Model Data Mart & Reporting Tool	300,000		60,000	120,000	120,000	300,000	Cost split 20-40-40k/year because first year will likely be analyis and design and future years will complete and vet solution.
	Total Contractual			106,800	166,800	166,800	440,400	
7	**Construction**							
								No Construction costs are included in this grant.
	Total Construction			-	-	-	0	
8	**Other**							
								No other costs are attributed to this deliverable.
	Total Other			-	-	-	0	
9	***Total Direct Costs (lines 1-8)***			**$ 106,800**	**$ 166,800**	**$ 166,800**	**$ 440,400**	
10	**Indirect Costs (18%)**			-	-	-	-	
11	**Training Stipends**							
12	***Total Costs (lines 9-11)***			**$ 106,800**	**$ 166,800**	**$ 166,800**	**$ 440,400**	

NOTES

Totals may not add due to rounding

No indirects calculated because no direct costs - except for contracts already used to calculate indirects in previous deliverables - are attributed to this deliverable.

ED 524 SECTION C

VADR PROJECT BUDGET - FEDERAL FUNDS

(Supporting ED 524 SECTION A)

			FEDERAL TOTAL: ALL DELIVERABLES				
				1.02	1.02		
		Salary/ Contractor Annual Rate/ Unit Cost	FTE %	Year 1	Year 2	Year 3	3-Year Total	Additional Notes
1	**Personnel**							
	Total Personnel			0	0	0	0	
2	**Fringe Benefits**							
	Total Fringe Benefits			0	0	0	0	
3	**Travel**							
	Total Travel			8,000	8,000	8,000	24,000	
4	**Equipment**							
	Total Equipment			0	0	0	0	
5	**Supplies**							
	Total Supplies			0	0	0	0	

6	**Contractual**				
	Total Contractual	1,927,900	1,205,900	1,055,900	4,189,700
7	**Construction**				
	Total Construction	0	0	0	0
8	**Other**				
	Total Other	215,000	215,000	215,000	645,000
9	***Total Direct Costs (lines 1-8)***	**2,150,900**	**1,428,900**	**1,278,900**	**4,858,700**
10	**Indirect Costs (18%)**	**35,280**	**26,640**	**26,640**	**88,560**
11	**Training Stipends**				
12	***Total Costs (lines 9-11)***	**2,186,180**	**1,455,540**	**1,305,540**	**4,947,260**

NOTES

ED 524 SECTION C

VADR PROJECT BUDGET - NON-FEDERAL FUNDS

(Supporting ED 524 SECTION B)

NON-FEDERAL TOTAL: ALL DELIVERABLES

				1.02	1.02		
		Salary/ Contractor Annual Rate/ Unit Cost	**FTE %**	**Year 1**	**Year 2**	**Year 3**	**3-Year Total**	**Additional Notes**
1	**Personnel**							
	Total Personnel			219,396	223,784	228,259	671,438	
2	**Fringe Benefits**							
	Total Fringe Benefits			107,784	109,940	112,139	329,863	
3	**Travel**							
	Total Travel			-	-	-	0	
4	**Equipment**							
	Total Equipment			0	0	0	0	
5	**Supplies**							
	Total Supplies			0	0	0	0	

6	**Contractual**				
	Total Contractual	352,447	211,000	211,000	774,447
7	**Construction**				
	Total Construction	0	0	0	0
8	**Other**				
	Total Other	-	-	-	0
9	***Total Direct Costs (lines 1-8)***	**679,627**	**544,723**	**551,398**	**1,775,748**
10	**Indirect Costs (18%)**	**-**	**-**	**-**	**0**
11	**Training Stipends**				
12	***Total Costs (lines 9-11)***	**679,627**	**544,723**	**551,398**	**1,775,748**

NOTES

Totals may not add due to rounding

A cost-of-living adjustment (COLA) of 2% has been applied to salaries and fringe benefits for years 2 and 3.

VADR BUDGET NARRATIVE

Overview
The narrative below outlines clarifying information regarding the Federal and non-Federal VADR project costs by project year as detailed in ***Proposal Section 4: Budget Information – Non-Construction Programs (ED 524) – Section C***. This budget justification first clarifies points about how amounts are assigned to cost categories. It then includes pertinent clarifying information about the budgets for specific project deliverables detailed in ***Section B of the Project Narrative (Proposal Section 6)***. The itemized breakdown of costs included in the ***Section C*** budget spreadsheet is not repeated here. This justification serves rather to clarify how the spreadsheet was formatted so that reviewers can easily understand costs attributed to cost categories and deliverables.

*Note: The **Section C** spreadsheet first details all Federal costs by deliverable and then details all non-Federal costs by deliverable. This was intentionally separated to provide clarity when comparing to **Budget Information – Non-Construction Programs (ED 524) – Sections A and B.***

Notes that pertain to cost categories for all deliverables immediately follow. Notes that pertain to a particular deliverable are included in that deliverable's individual section of this narrative. Cost category sections for specific deliverables that need no clarification beyond the budget spreadsheet and details included in project narrative are also listed below to follow the spreadsheet's layout.

Notes on Cost Categories

Note on Personnel & Fringe Benefit Cost Categories
The VADR project will include only in-kind (non-Federal) personnel & fringe benefit costs as all other work that might be attributed to these categories is contracted. This section includes the FTE of key personnel involved with each deliverable. Further detail on effort and responsibilities is included in ***Section E: Staffing of the Project Narrative (Proposal Section 6)*** and in the ***Section C*** budget spreadsheet. In-kind contributions represent the portion of resource's FTE and salary/fringe benefits dedicated to a particular deliverable. Resources working on more than one deliverable have their in-kind costs allocated proportionately. Specific splits are detailed in the budget spreadsheet and/or proposal narrative.

Note on Equipment Cost Category
Please note that no Equipment costs are budgeted to the VADR project as all new systems implemented through this project will be vendor-hosted. Using this model, equipment will not be directly paid for by grant or non-Federal money but rather will be included in the quoted vendor hosting and/or licensing costs

Note on Supplies and Construction Categories
No costs are attributed to these costs for any VADR deliverable.

Vermont Automated Data Reporting (VADR) Project

Note on Contractual Cost Category

In recognizing staffing constraints, VT DOE has purposely designed the VADR project and its budget around personal service contracts for key I-Team personnel, cost effective delivery of services through VDC district partners, and vendor-driven system implementation. All costs attributed to vendor contracts have been derived through repeated communications with experienced vendors and state peers who have worked to implement similar solutions. All costs were provided solely for budgetary purposes. Specific costs will be detailed in implementation contracts that will not be developed until an award is granted.

In some cases (mainly in the case of the ODS contract), overall contract activities/estimates have been split across deliverables to better reflect the deliverables they support.

Note on Other Cost Category

VT DOE has identified money that will be sub-granted to Vermont districts so that they can work with their district system vendors to enable SIF and/or pay for the preparation of export files. VT DOE has communicated with every SIS vendor known to operate in the state, to gather information related to what costs districts will be required to pay these vendors to ready their systems for automated data collection. The proposed budget includes a pool of money that will be sub-granted to districts to pay for district system customizations needed to facilitate automated data collection implementations by the vendors responsible for VR (initial, automated vertical reporting as will be defined in the 2 data collection plans related to this contract) and ODS (data collection(s) to fill gaps between VR collection and data needed for other project deliverables). This pool of money has been allocated in a 50-50 split to these two project deliverables.

Note on Indirect Costs

Indirect costs detailed in this section, and the budget spreadsheet, are calculated based on VT DOE's restricted cost rate of 18%. This rate has been applied to the following Federal costs:

- Travel: The restricted indirect rate was applied to all Travel costs.
- Contractual: Indirect Costs were applied to Contractual costs in each year. In doing so, VT DOE calculated total contract costs projected for a given year and calculated indirect costs by multiplying the indirect rate on the total contract value up to $25,000 per contract per year. Specific notes about contracts:
  - Itemized costs are presented for ODS contract activities. These costs are attributed to the project deliverable that they help achieve. Indirect costs have been calculated only once and listed under only one project deliverable budget section for this project.
  - Personal service contract costs for contracted resources (i.e. Technical Lead/Project Manager & Change Management Specialist) have been allocated to the project deliverables that they support. In each case, however, indirect costs have been listed under the first project deliverable that they support.
  - All Independent Review contracts are included in Indirect Calculations.
- Other: Indirect Costs were attributed to Other category costs excluding those related to funds projected to be sub-granted to Vermont districts.

- Note: No Federal costs requested in this application have been attributed to Personnel, Fringe Benefits, Equipment, Supplies or Construction. Therefore, no indirect costs have been attributed to these cost categories.

Note on Direct Costs
Total Direct Costs for this (and all other deliverables) is simply a sum of the total cost categories 1-8 detailed above.

Notes on Deliverable Costs

a. Summary
Total requested and in-kind cost by deliverable:

Deliverable	Total Requested	In-Kind
1	**1,706,580**	**212,919**
2	**1,601,820**	**212,919**
3	**240,400**	**1,075,205**
4	**567,660**	**15,447**
5	**390,400**	**112,962**
6	**440,400**	**146,296**
Total	**4,947,260**	**1,775,748**

b. Deliverable 1:
All K-12 Schools Participating in Automated Vertical Data Collection by May, 2015.

1. Deliverable 1 – Personnel (FTE) Budget – In-kind only

No clarification needed.

2. Deliverable 1 – Fringe Benefits Budget – In-kind only

No clarification needed.

3. Deliverable 1 – Travel Budget

As SIF is a large part of the VADR project, SEA staff will need to attend the SIF annual meeting to stay up to date on emerging technologies and practices.

4. Deliverable 1 – Equipment Budget – Not Applicable

5. Deliverable 1 – Supplies Budget – Not Applicable

6. Deliverable 1 – Contractual Budget

See Note on Contractual Cost Category at this Section's header. Contract personnel FTE splits are detailed in the budget spreadsheet. VR Contract costs are broken up to show detailed activities.

7. Deliverable 1 – Construction – Not Applicable

8. Deliverable 1 – Other

Statewide SIF Association Membership is necessary for Vertical Reporting implementation.

9. Deliverable 1 – Total Direct Costs

No clarification needed.

10. Deliverable 1 – Total Indirect Costs

See note on Indirects in this Section's Header. All listed contracts (up to $25,000 limit) are included. Sub-Grants listed in Other section are excluded.

11. Deliverable 1 – Training Stipends – Not Applicable

12. Deliverable 1 – TOTAL BUDGET

No clarification needed.

c. Deliverable 2
Develop State-level Operational Data Store

1. Deliverable 2 – Personnel (FTE) Budget – In-kind

No clarification needed.

2. Deliverable 2 – Fringe Benefits Budget – In-kind

No clarification needed.

3. Deliverable 2 – Travel Budget

Travel is budgeted for 2 SEA Project staff to attend annual meeting in Washington, D.C.

4. Deliverable 2 – Equipment Budget – Not Applicable

5. Deliverable 2 – Supplies Budget – Not Applicable

6. Deliverable 2 – Contractual Budget

See Note on Contractual Cost Category at this Section's header. Contract personnel FTE splits are detailed in the budget spreadsheet. ODS Contract costs are broken up to show detailed activities.

7. ***Deliverable 2 – Construction – Not Applicable***

8. ***Deliverable 2 – Other***

   See Note on Other Cost Category in this Section's Header.

9. ***Deliverable 2 – Total Direct Costs***

   No clarification needed.

10. ***Deliverable 2 – Total Indirect Costs***

$25,000 for ODS Contract is included in Indirect calculation.

11. ***Deliverable 2 – Training Stipends – Not Applicable***

12. ***Deliverable 2 – TOTAL BUDGET***

    No clarification needed.

d. Deliverable 3
All VT DOE Data Analysis Tool Data Loads Automated

1. ***Deliverable 3 – Personnel (FTE) Budget – In-kind***

   No clarification needed.

2. ***Deliverable 3 – Fringe Benefits Budget – In-kind***

   No clarification needed.

3. ***Deliverable 3 – Travel Budget –Not Applicable***

4. ***Deliverable 3 – Equipment Budget – Not Applicable***

5. ***Deliverable 3 – Supplies Budget – Not Applicable***

6. ***Deliverable 3 – Contractual Budget***

See Note on Contractual Cost Category at this Section's header. Contract personnel FTE splits are detailed in the budget spreadsheet. ODS Contract costs are broken up to show detailed activities.

Vermont Automated Data Reporting (VADR) Project

Existing EDW contracts & dashboard implementation as well as contract for secure data-driven reporting tool login are included as non-federal contracts.

7. ***Deliverable 3 – Construction – Not Applicable***

8. ***Deliverable 3 – Other – Not Applicable***

9. ***Deliverable 3 – Total Direct Costs***
   No clarification needed

10. ***Deliverable 3 – Total Indirect Costs – Not Applicable***

11. ***Deliverable 3 – Training Stipends – Not Applicable***

12. ***Deliverable 3 – TOTAL BUDGET***

    No clarification needed

e. Deliverable 4
Establish Enhanced Training Delivery System

1. ***Deliverable 4 – Personnel (FTE) Budget – In-kind***

   No clarification needed

2. ***Deliverable 4 – Fringe Benefits Budget – In-kind***

   No clarification needed

3. ***Deliverable 4 – Travel Budget – Not Applicable***

4. ***Deliverable 4 – Equipment Budget – Not Applicable***

5. ***Deliverable 4 – Supplies Budget – Not Applicable***

6. ***Deliverable 4 – Contractual Budget***

   See Note on Contractual Cost Category at this Section's header. Contract personnel FTE splits are detailed in the budget spreadsheet.

   Budget spreadsheet explains that total cost of VDC contract is allocated to this deliverable. See project narrative for breakdown of resource effort.

7. ***Deliverable 4 – Construction – Not Applicable***

8. ***Deliverable 4 – Other - – Not Applicable***

9. ***Deliverable 4 – Total Direct Costs***

   No clarification needed

10. ***Deliverable 4 – Total Indirect Costs***

    VDC Contract is included in Indirect Calculation.

11. ***Deliverable 4 – Training Stipends – Not Applicable***

12. ***Deliverable 4 – TOTAL BUDGET***

    No clarification needed

f. Deliverable 5
All Ed*Facts* Submission Files Capable of Being Automatically Generated

1. ***Deliverable 5 – Personnel (FTE) Budget – In-kind***

   No clarification needed

2. ***Deliverable 5 – Fringe Benefits Budget – In-kind***

   No clarification needed

3. ***Deliverable 5 – Travel Budget – Not Applicable***

4. ***Deliverable 5 – Equipment Budget – Not Applicable***

5. ***Deliverable 5 – Supplies Budget – Not Applicable***

6. ***Deliverable 5 – Contractual Budget***

   See Note on Contractual Cost Category at this Section's header. Contract personnel FTE splits are detailed in the budget spreadsheet. ODS Contract costs are broken up to show detailed activities.

7. ***Deliverable 5 – Construction – Not Applicable***

8. ***Deliverable 5 – Other – Not Applicable***

9. ***Deliverable 5 – Total Direct Costs***

   No clarification needed.

10. Deliverable 5 – Total Indirect Costs – Not Applicable

11. Deliverable 5 – Training Stipends – Not Applicable

12. Deliverable 5 – TOTAL BUDGET

No clarification needed.

g. Deliverable 6
Develop Growth Model Reporting Tool

1. Deliverable 6 – Personnel (FTE) Budget – In-kind

No clarification needed.

2. Deliverable 6 – Fringe Benefits Budget – In-kind

No clarification needed.

3. Deliverable 6 – Travel Budget – Not Applicable

4. Deliverable 6 – Equipment Budget – Not Applicable

5. Deliverable 6 – Supplies Budget – Not Applicable

6. Deliverable 6 – Contractual Budget

See Note on Contractual Cost Category at this Section's header. Contract personnel FTE splits are detailed in the budget spreadsheet. ODS Contract costs are broken up to show detailed activities.

7. Deliverable 6 – Construction – Not Applicable

8. Deliverable 6 – Other – Not Applicable

9. Deliverable 6 – Total Direct Costs

No clarification needed.

10. Deliverable 6 – Total Indirect Costs – Not Applicable

11. Deliverable 6 – Training Stipends – Not Applicable

12. Deliverable 6 – TOTAL BUDGET

No clarification needed.